SERVICE MANUAL NO.2

AKAI TAPE DECK

MODEL GX-280D

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When placing order for parts, please use Separate PARTS LIST or PRICE LIST FOR PARTS.

I. SPECIFICATIONS

STYLE : Portable
WEIGHT : 46 lbs (21 kg)
DIMENSIONS : 17" x 18" x 10"
(432 mm x 457 mm x 254 mm)
POWER SUPPLY : AC 100 to 240 V ; 50/60 Hz
RECORDING SYSTEM
: 4-track stereo, monaural recording system.
PLAYBACK SYSTEM
: 4-track stereo, monural playback system.
TAPE SPEED : 3-3/4, and 7-1/2 ips.
TAPE SPEED DEVIATION
: Within +1.0%, −0.5% at 7-1/2 ips,
Within ±1.0% at 3-3/4 ips.
WOW AND FLUTTER
(Playback only) : Less than 0.12% r.m.s. at 7-1/2 ips.
Less than 0.18% r.m.s. at 3-3/4 ips.
FREQUENCY RESPONSE
: 30 to 24,000 Hz ±3 dB at 7-1/2 ips.
30 to 18,000 Hz ±3 dB at 3-3/4 ips.
SIGNAL TO NOISE RATIO
: Better than 48 dB at 7-1/2 and 3-3/4 ips.
DISTORTION : Within 2% at 7-1/2 ips.
Within 3% at 3-3/4 ips.
(at line output, 1,000 Hz OVU Recording and Playback)
CROSSTALK : Less than −60 dB (Monaural)
Less than−45 dB (Stereo)
ERASE RATIO : Less than −70 dB.
INSULATION RESISTANCE
: More than 50 MΩ
LINE OUTPUT : 1.23 V (+4 dBs).
Required load impedance more than 25 K ohms
DIN OUTPUT : 0.4 V., Output impedance . . 10 K ohms.
Required load impedance more than 50 K ohms.
HEADPHONE : 30 to 40 mV/8 ohms.
LINE INPUT : Above 70 mV.
Impedance . . . . . .150 K ohms.
DIN INPUT : High . . . . . .Above 50 mV
Impedance . . . . . .75 K ohms.
Low . . . . . .Above 7 mV
Impedance . . . . . .67 K ohms.
MIC INPUT : Above 0.5 mV. Impedance . . 10 K ohms.
FAST FORWARD TIME
: 88 seconds for a full 1,200 foot tape at 50 Hz., 77 seconds at 60 Hz.
REWIND TIME : 81 seconds at 50 Hz., 68 seconds at 60 Hz for a full 1,200 foot tape.

MOTORS
CAPSTAN MOTOR
: Servo-Control 2-speed motor.
Condenser Capacity 3.5 μF (50 Hz).
3.0 μF (60 Hz).
Revolutions ; 530 and 265 r.p.m.
REEL MOTOR
: Two 6-pole eddy current outer-rotor motors.
Revolutions ; 930 r.p.m. at 50 Hz., 100 V.
1120 r.p.m. at 60 Hz., 110 V.
HEADS
PLAYBACK HEAD
: In-line 4-track stereo/monaural, Glass & Crystal Ferrite Head.
Impedance . . . 2,500 Ohms at 1,000 Hz.
Gap . . . . . 2/1,000 mm.
RECORDING HEAD
: In-line 4-track stereo and monaural, Glass & Crystal Ferrite Head
Impedance . . . . . 15 Ohms at 1,000 Hz.
Gap . . . . . 4/1,000 mm.
ERASE HEAD : In-line 4-track stereo/monaural
Impedance . . . . . 380 Ohms at 100 kHz.
RECORDING LEVEL INDICATOR
: Two VU Meters
TRANSISTORS & IC USED
2SC871 (E) (F) 8
2SC968 (3) 4
2SC945 (Q) (R) 9
2SC971 (2) (3) red 2
2SC458LG (B) (C) 2
2SC811 (E) (F) 4
2SC945 (R) (S) 1
2SA564 (R) 2
2SD234 (Y) 2
2SC1013 1
IC LD-3141 2
DIODES USED : 5 . . . . 10D4 2 . . . 10DC-1 (red)
11 . . . . 10D1 2 . . . 10DC-1 (blk)
1 . . . . RD9A
11 . . . . 1N34A

II. MEASURING METHOD

TAPE SPEED DEVIATION

1. Method involving use of pre-recorded tape

Playback a tape pre-recorded at 1,000 Hz (±0.1%) on the recorder to be tested. Connect the appropriate output to a frequency counter meter in order to measure the tape speed deviation.

2. Method involving use of timing tape (designed for tape speed measurement)

This method utilizes a timing tape marked at intervals of 7-1/2". The running time of over 60 marked sections of the tape is measured in order to calculate the tape speed deviation. In applying this method, however, it should be kept in mind that timing tape stretch or contract measurement is inevitable, so that it is necessary to measure the total length of the tape in advance.

WOW AND FLUTTER

Playback the 3,000 Hz pre-recorded tape of which the wow and flutter level is guaranteed to be smaller than 0.07% for measurement by means of a wow meter. It is also possible for a 3,000 Hz sine wave to be recorded and played back for measurement by means of a wow meter. In this case, however, the wow meter indicates a value as much as twice the value given in the specifications.

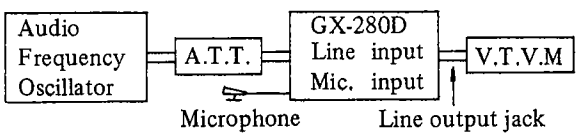
FREQUENCY RESPONSE

RECORD :

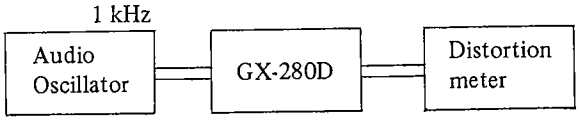
1) Give a sine wave of 1,000 Hz to the Line Input of the recorder to be tested through an attenuator from an audio frequency generator.
2) Set the Monitor Switch to "SOURCE" position and adjust the line input volume so that the VU Meter needle indicates "0" VU.
3) Set the TAPE SPEED SELECTOR to 7-1/2" or 3-3/4" position.
4) Under the condition described in (2), lower the input level 20 dB by means of the attenuator.
5) Record the spot frequency in the range of 30 Hz to 20,000 Hz from the audio frequency generator.

PLAYBACK :

6) Set the Monitor Switch to "TAPE" position.
7) Connect a Vacuum Tube Volt Meter to the Line Output Jack. (VTVM with millivolt scale.)
8) Playback the recorded tape.
9) Playback the recorded spot frequencies and make a memo of output level and plot the value on a graph.



TOTAL HARMONIC DISTORTION FACTOR



Connect the measuring instrument as shown above, and record the 1,000 Hz sine wave at "0" VU. Playback the resulting signal and measure the overall distortion factor. Measure the noise level of the tape recorder with the tape removed ; connect the audio oscillator directly to the distortion meter for measurement of the distortion factor of the oscillator.

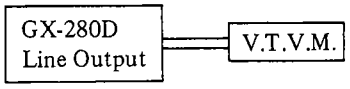
The required distortion factor may be obtained from the results of the above measurement by the following formula :

$$d_0 = d - d_1 - d_2$$

Where, d_0 = Required
d = Overall distortion factor
d_1 = Noise level
d_2 = Distortion factor of the oscillator

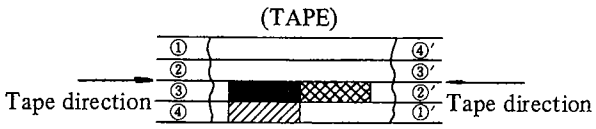
(Note : New tape of particularly good quality should be used for measurement of the distortion factor.)

SIGNAL TO NOISE RATIO



Set the Tape Speed Selector to "7-1/2 ips" position and playback a tape containing a 250 Hz sine wave recorded at "0" VU level on a standard recorder. Connect a V.T.V.M. to the line output jack of the recorder and measure its output. Then remove the tape and measure the noise level under the same condition. Convert into decibels each of the measured values.

CROSSTALK (Crosstalk between the tracks)



As shown in the figure, first record a 1,000 Hz sine wave on track No. 3 at +3 VU level. Next, remove the 1,000 Hz input signal and record under a non-input condition. Then, playback the tape on track No. 3 and No. 1 (reversed condition of tape) through the 1,000 Hz B.P.F. (Band Pass Filter, Sensitivity . . . 1 : 1) and obtain a ratio between the two from the following formula.

$$C = 20 \log \frac{E_0}{E_2 - E_1} (dB)$$

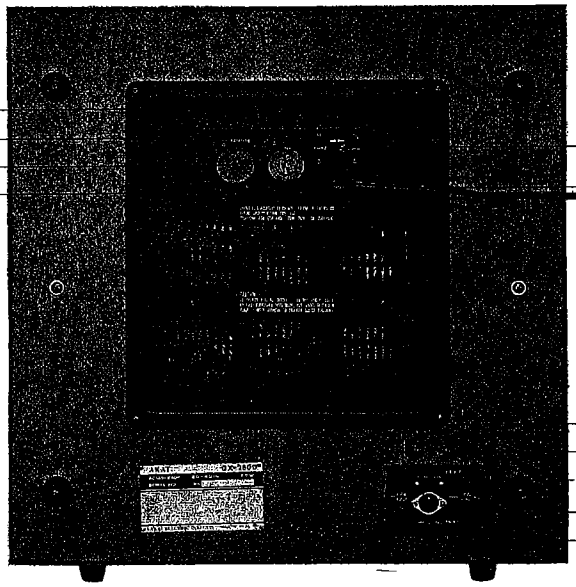
C = Desired crosstalk ratio (db)

E_0 = 1,000 Hz signal output level

E_2 = 1,000 Hz crosstalk output level

E_1 = Non-input signal record level

III. CONTROL LOCATIONS

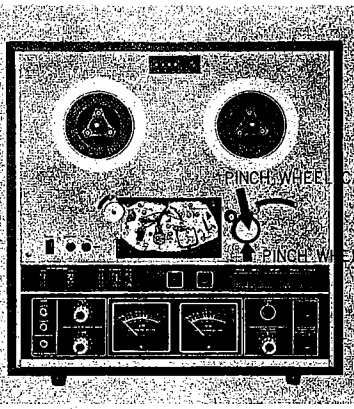


IV. DISMANTLING OF TAPE TRANSPORT UNIT & AMPLIFIERS

In case of trouble, etc, necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.

1

2



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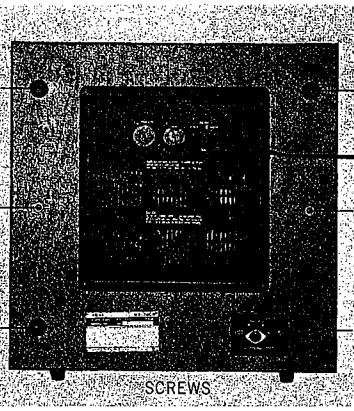
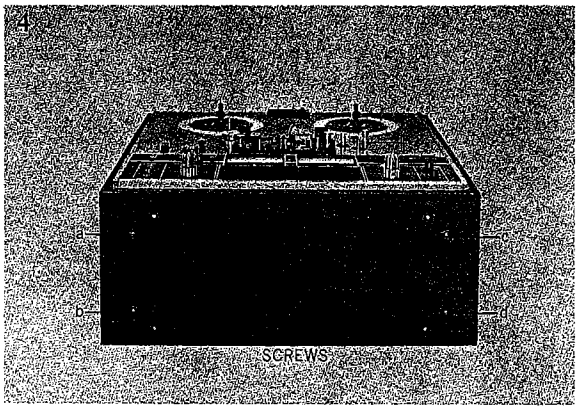
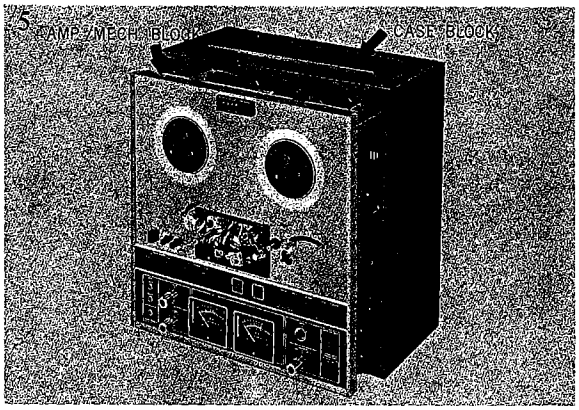


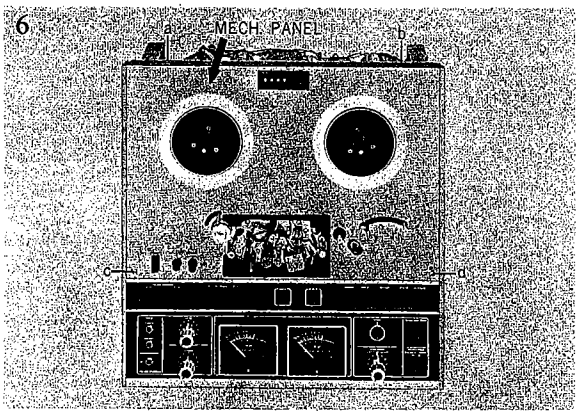
4



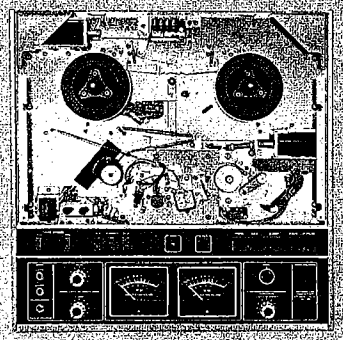
5



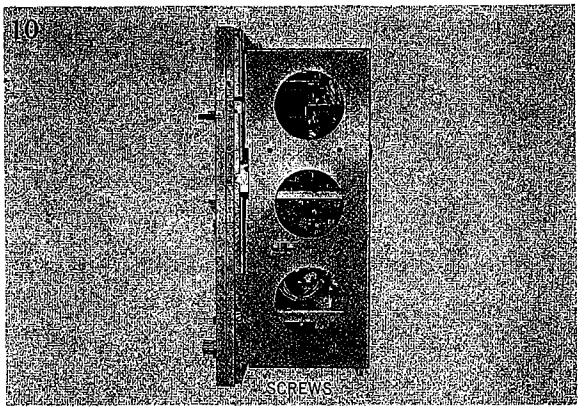
6



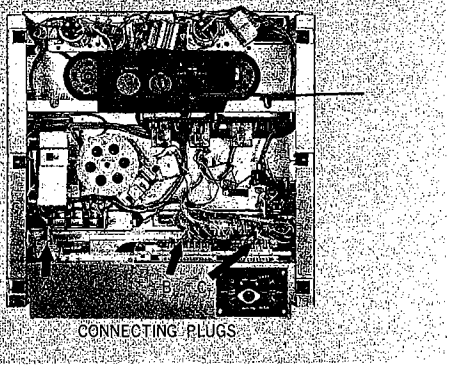
7


MECHANISM CONTROL LEVER ADJUSTMENT

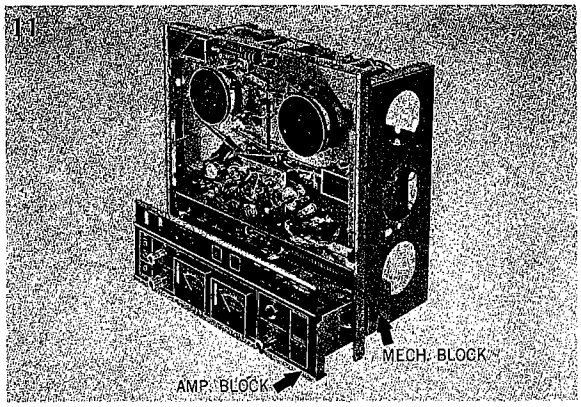
10


SCREWS

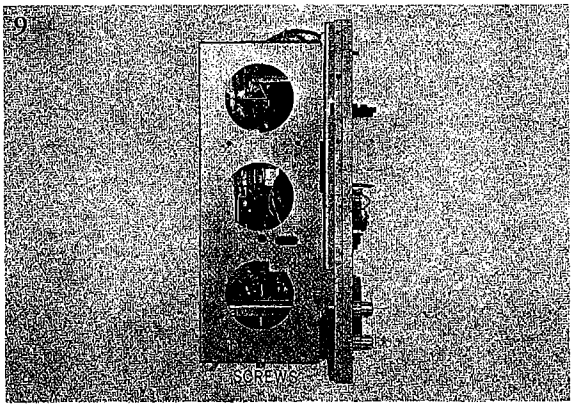
8


CONNECTING PLUGS

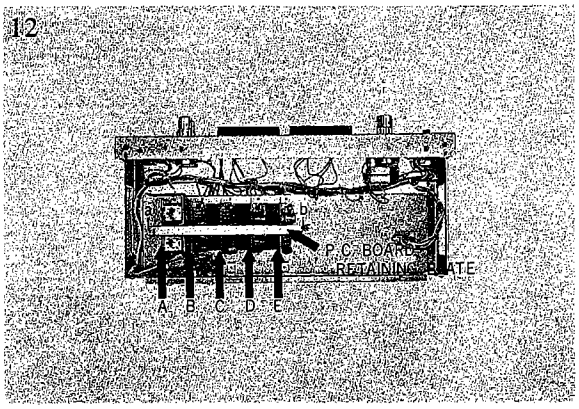
11


MECH. BLOCK
AMP. BLOCK

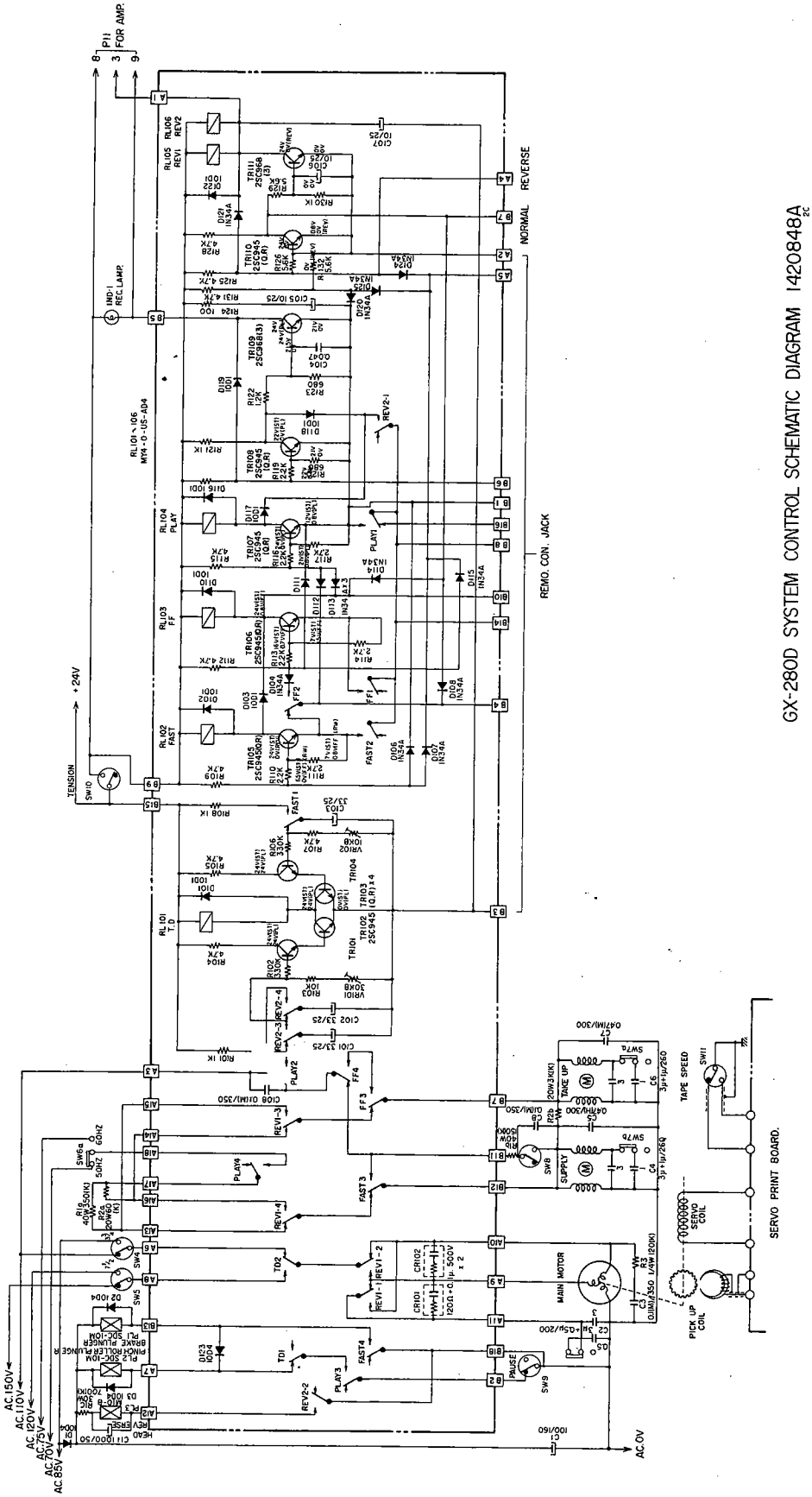
9


SCREWS

12


P.C.BOARD
RETAINING PLATE
A B C D E

V. TRANSPORT MECHANISM



GX-280D SYSTEM CONTROL SCHEMATIC DIAGRAM I420848A 2C

1. SUPPLY VOLTAGE OF BOTH TORQUE MOTORS DURING RECORDING/PLAYBACK

	SUPPLY	TAKE-UP
Normal Play	32 V (50 to 60 gr)	55 V (160 gr)
Reverse	55 V (160 gr)	32 V (50 to 60 gr)
RW-FF	100 V (550 gr)	100 V (550 gr)

2. PINCH ROLLER PRESSURE

Proper pinch roller pressure is 1.2 Kg (±100 gr).

3. RELAY OPERATION CHART

Relay / Modo	PLAY	REV. 1	REV. 2	F.F.	FAST	TD	TRANSISTOR
PLAY	○						TR 104
REV.	○	○	○				TR 101,2,4,10,11
F.FWD.				○	○		TR 102,3
RWD.					○		TR 102
PLAY REV.						○	TR 101, 2
F.F. PLAY RWD REV.						○	TR 103,4

VI. MECHANISM ADJUSTMENT

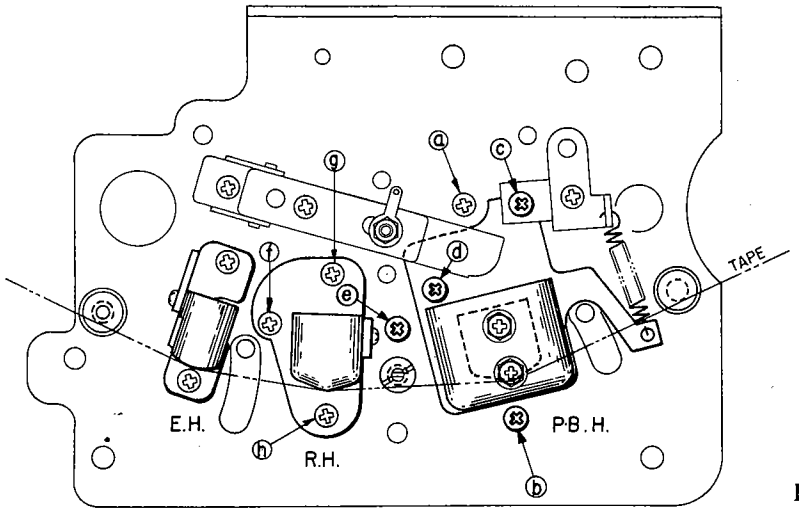


Fig. 6-1

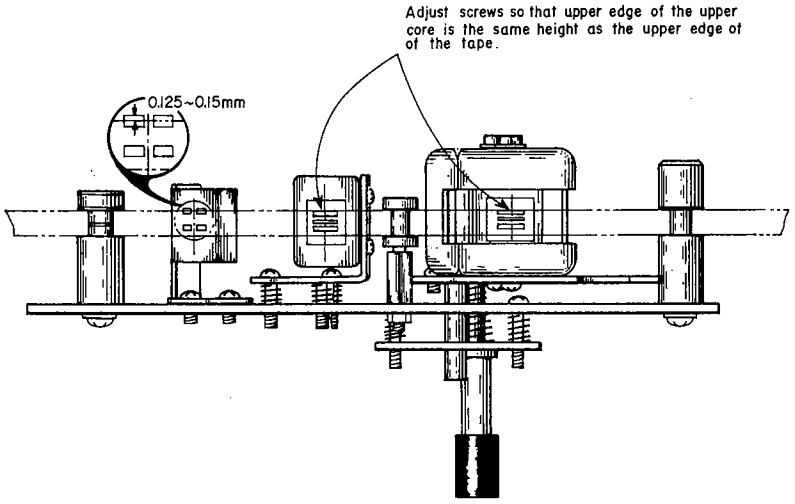


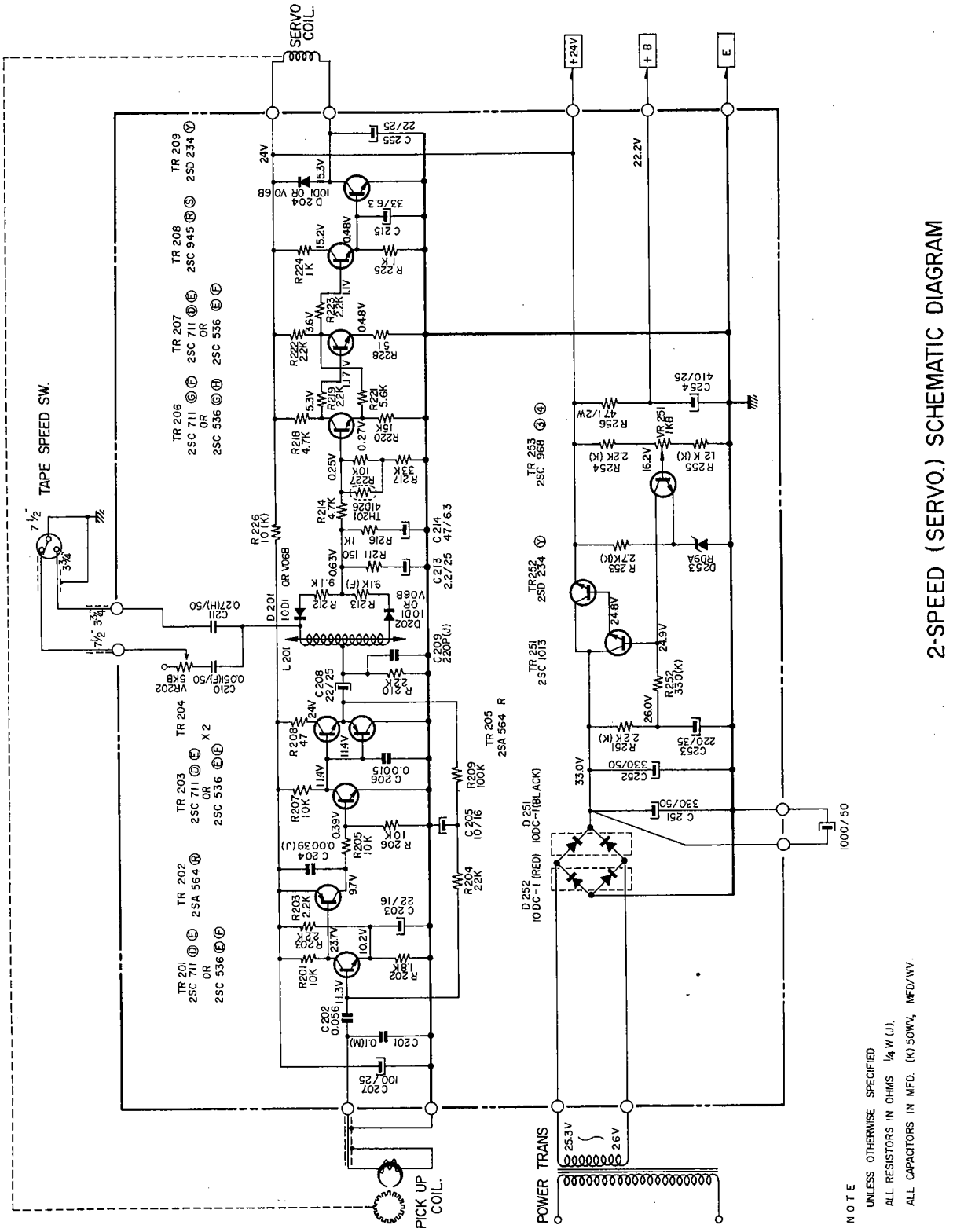
Fig. 6-2

1. ADJUSTMENT OF HEAD HEIGHT (See Figs. 1 and 2).

1) To adjust Playback Head height, turn screw (c) during normal play so that the upper edge of the upper core of the Playback Head is the same height as the upper edge of the tape.
2) For head height adjustment during reverse play, adjust screw (d) so that the lower edge of the Playback Head core is the same height as the bottom edge of the tape.
3) To adjust the Recording Head height, turn screws (f) (g) and (h) so that the upper edge of the upper core of the Recording Head is the same height as the upper edge of the tape.
4) Erasing Head
   The upper edge of the upper core of the Erase Head must be 0.125 to 0.15 mm higher than the upper edge of the tape. In adjusting the head height, make sure that the front of the head is at right angles to the chassis and that the upper and lower part of the head firmly contacts the tape.

2. ADJUSTMENT OF AZIMUTH ALIGNMENT

1) Playback Head
   Use a pre-recorded tape (16 kHz, 7-1/2 ips) and connect a high sensitivity V.T.V.M. to the Line Output Jack.
   Adjust Screws (a) (b) until the line output voltage is maximum.
2) At reverse play, make the same adjustment as is outlined in (1) above.
   The output error between left and right channels should be within 2 dB. This 2 dB margin should be maintained during normal reverse.
3) Recording Head
   After Playback Head alignment has been perfected, connect an Audio Oscillator to the Line Input and connect a High Sensitivity V.T.V.M. to the Line Output. Set Tape Speed Selector to 7-1/2 ips. Record a 16 KHz signal and set Monitor Switch to "Tape". Adjust Recording Head Alignment Screw (f) so that the High Sensitivity V.T.V.M. indicates maximum.



2-SPEED (SERVO.) SCHEMATIC DIAGRAM

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS ¼ W (J).
ALL CAPACITORS IN MFD. (K) 50WV. MFD/WV.

Fig. 6-3

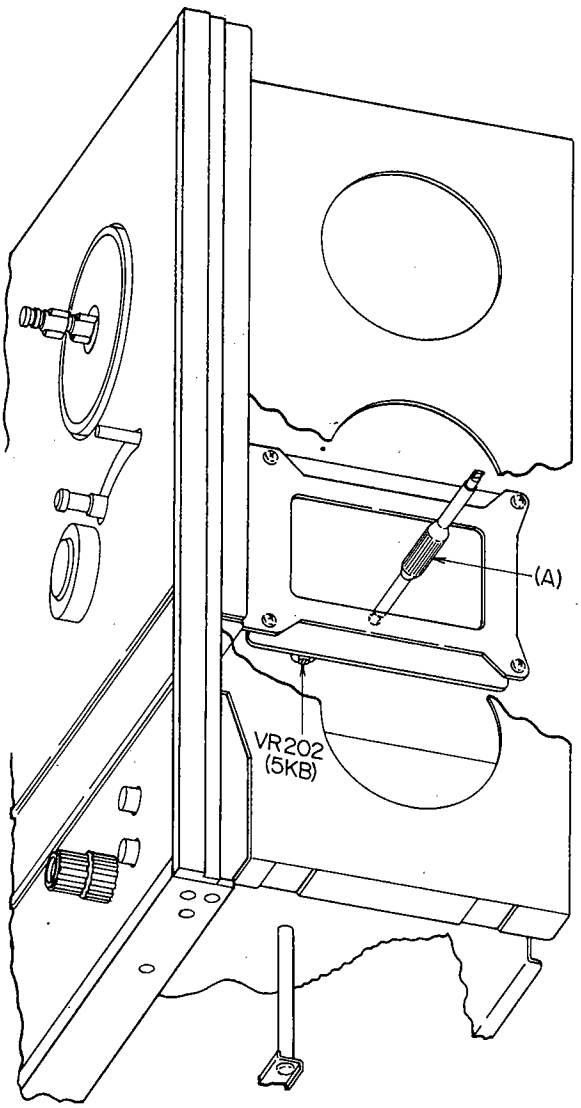


Fig. 6-4

3. TAPE SPEED ADJUSTMENT METHODS (Servo-Motor Circuit Adjustment)

MEASURING METHOD INVOLVING USE OF PRE-RECORDED TAPE

1) Set Speed Selector to 3-3/4 ips and play back a 1 kHz pre-recorded tape.
2) Adjust L 201 in transformer core so that the Frequency Counter indication is 500 Hz (±1%) (See Fig. 6-4, point A).
3) Set Speed Selector to 7-1/2 ips.
4) Adjust VR 202 (5 KB) so that the Frequency Counter indication is 1,000 Hz (±0.5%)

Motor revolutions at each speed should be as follows :

7-1/2 ips 530 r.p.m.
3-3/4 ips 265 r.p.m.

In case a Frequency Counter is not used, connect an oscilloscope to the center point of L 201 and measure the respective waveforms (Refer to Fig. 6-3).

4. REEL HEIGHT ADJUSTMENT (SEE DIAGRAM ILLUSTRATION)

Loosen Reel Table Screws and regulate height.

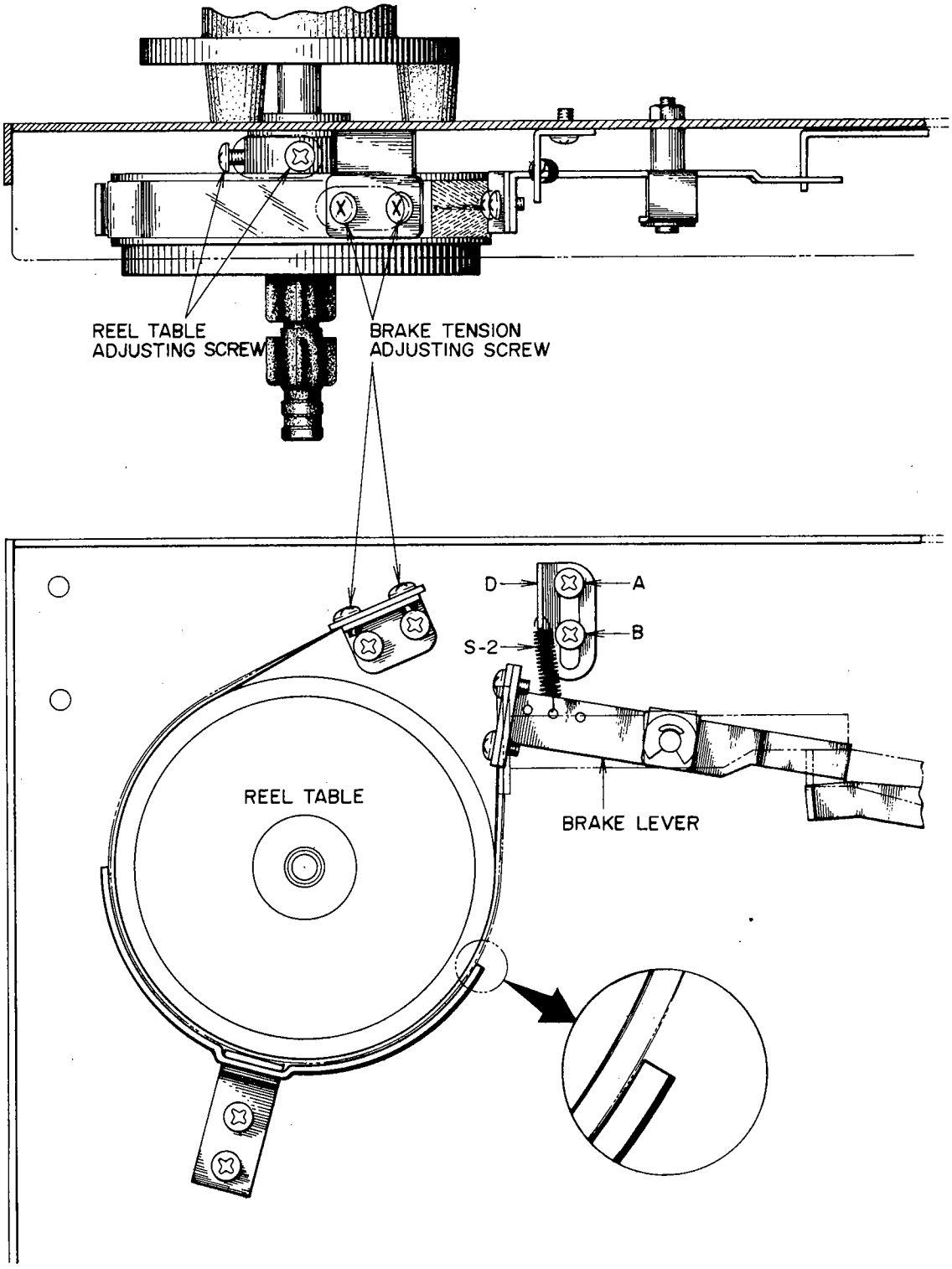


Fig. 6-5

VII. AMPLIFIER ADJUSTMENT

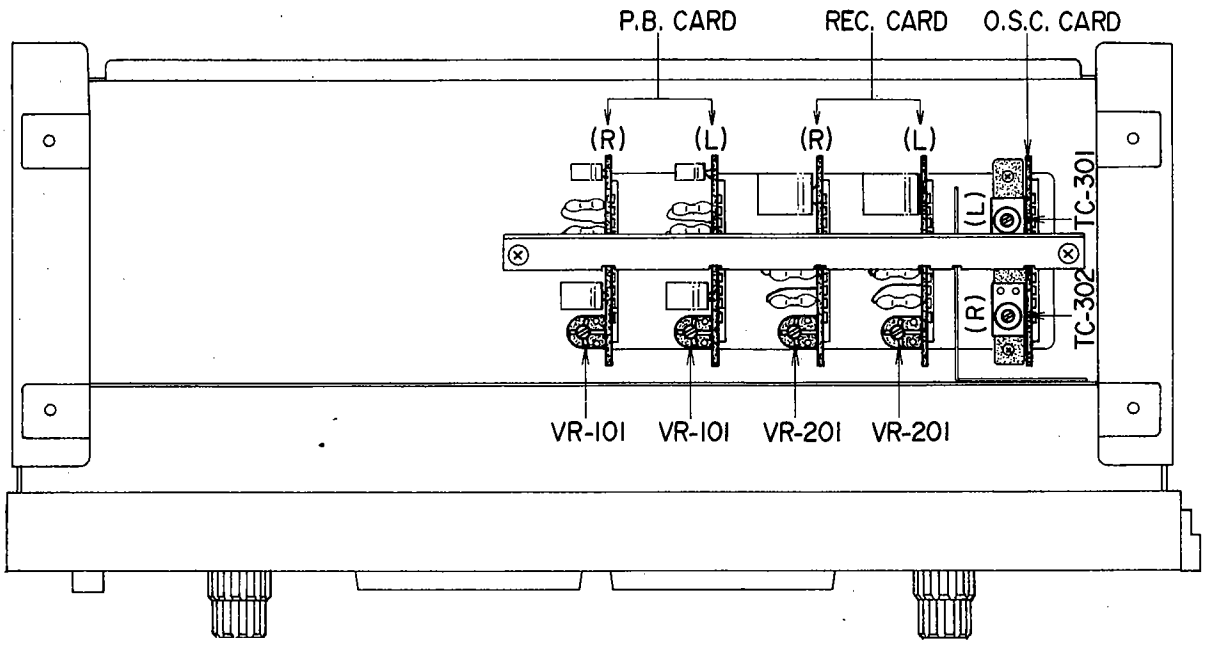


Fig. 7-1

1. PLAYBACK OUTPUT LEVEL (PRE-AMPLIFIER) ADJUSTMENT

a) Connect a high sensitivity V.T.V.M. to the Line Output Jack.
b) Set the Tape Speed Selector Switch to the "7-1/2" position.
c) Playback a 250 Hz pre-recorded tape.
d) Adjust the VR 101 (semi-fixed resistor 20 KB, Fig. 7-1 of the pre-amplifier so that Line Output Voltage indicates 1.228 V (+4 dBs).

2. ADJUSTMENT OF RECORDING LEVEL

Recording Amplifier adjustment should be made only after Head adjustments (vertical and horizontal azimuth) and Playback Amplifier adjustments have been made.

1) Connect an Audio Oscillator and Attenuater to the Line Input, and connect a High Sensitivity V.T.V.M. to the Line Output.
2) Set Tape Speed Selector to "7-1/2" ips.
3) Load a blank tape (AKAI "L" TAPE) and set Monitor Switch to "Tape" position.
4) Supply a 1,000 Hz signal from the Audio Oscillator to the Line Input.
   Record tape (adjust Line Volume Control so that the V.T.V.M. indication is +4 dB). VU Meter should indicate "O" VU (intermediate between red and black).
5) Set Monitor Switch to "Source" position and adjust semi-fixed resistor VR-201 (20 KB) of recording amplifier until V.T.V.M. indication is + 4 dB.

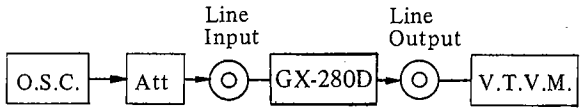
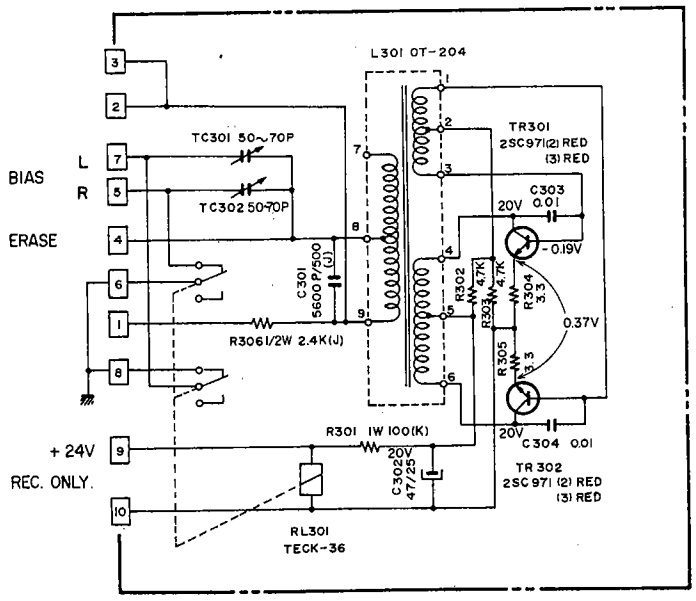


Fig. 7-2



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4 W. (J)
ALL CAPACITORS IN MFD(J) 50WV, MFD/WV
(P=M·MFD)

(O.S.C.) SCHEMATIC DIAGRAM

Fig. 7-3

3. ADJUSTMENT OF RECORDING BIAS FREQUENCY

1) Proper Bias Frequency for Model GX-280D is 95 to 195 KHz.
2) Connect a Frequency Counter to the Oscillator Card (See Fig. 7-3).
3) If the Bias Frequency is incorrect, the frequency can be adjusted by converting Condenser C-301 (5600 PF).
4) Proper Bias Voltage is 3 to 6 V.
   Standard Voltage : at 7-1/2 ips 5 V
   at 3-3/4 ips 3 to 4 V
5) Proper Erase Voltage is about 65 V.
6) If Bias Voltage is incorrect, it can be adjusted by TC-301 and TC-302 (50 to 70 PF) in the bias oscillator circuit. (For optimum adjustment of frequency response and distortion factor, left and right is not always the same).

4. ADJUSTMENT OF FREQUENCY RESPONSE

1) Refer to measurement of Frequency Response.
2) Use and AKAI "F" Tape and record a 1 KHz and a 10 KHz signal.
   (Record the 1 KHz signal within "O" VU–16 dB).
3) With the Monitor Switch at "Tape" position, adjust TC-301 and TC-302 variable condensers so that when the Audio Oscillator Frequency is switched, both signals are equal.
4) Throught the above adjustment method, both 7-1/2 and 3-3/4 ips tape speed will be within specifications.

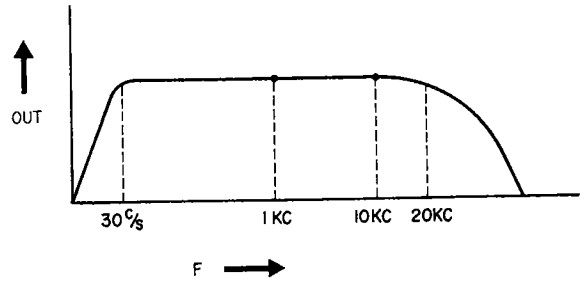
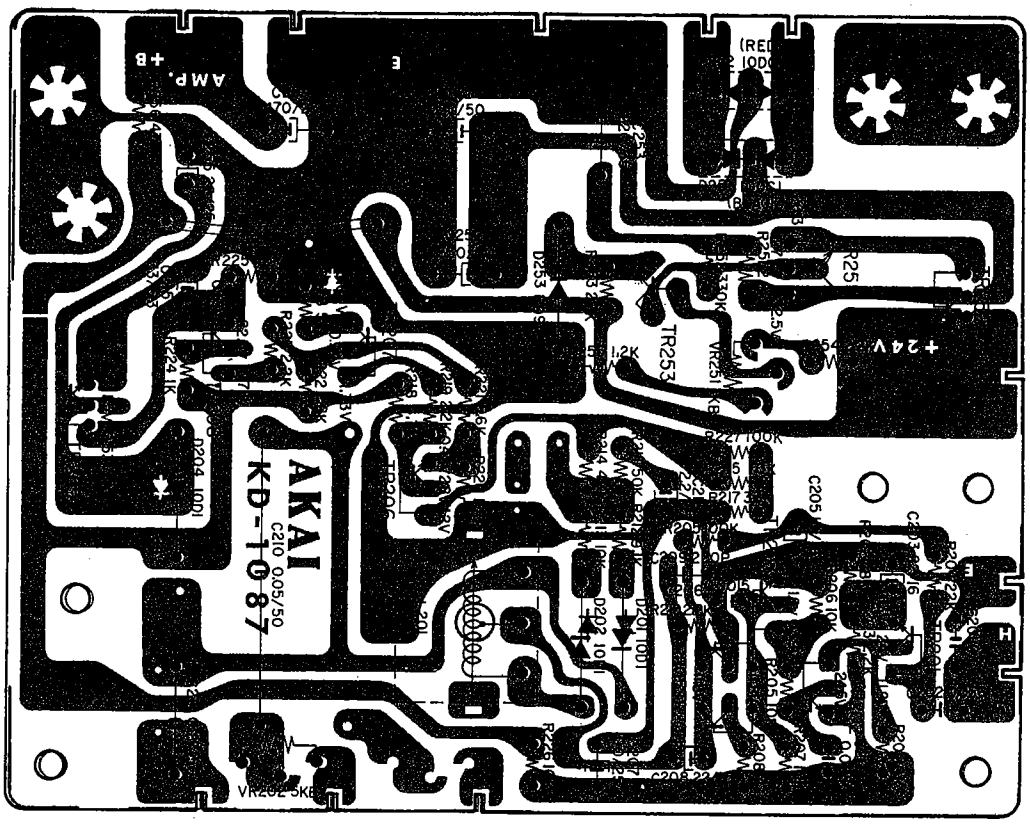


Fig. 7-4

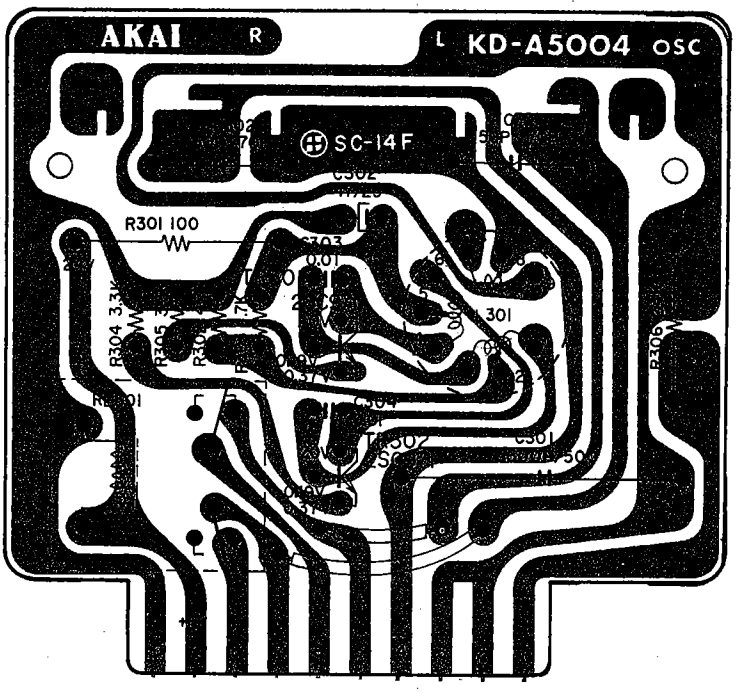
VIII. COMPOSITE VIEWS OF COMPONENTS

SERVOMOTOR CONTROL P.C. BOARD (KD-1087)

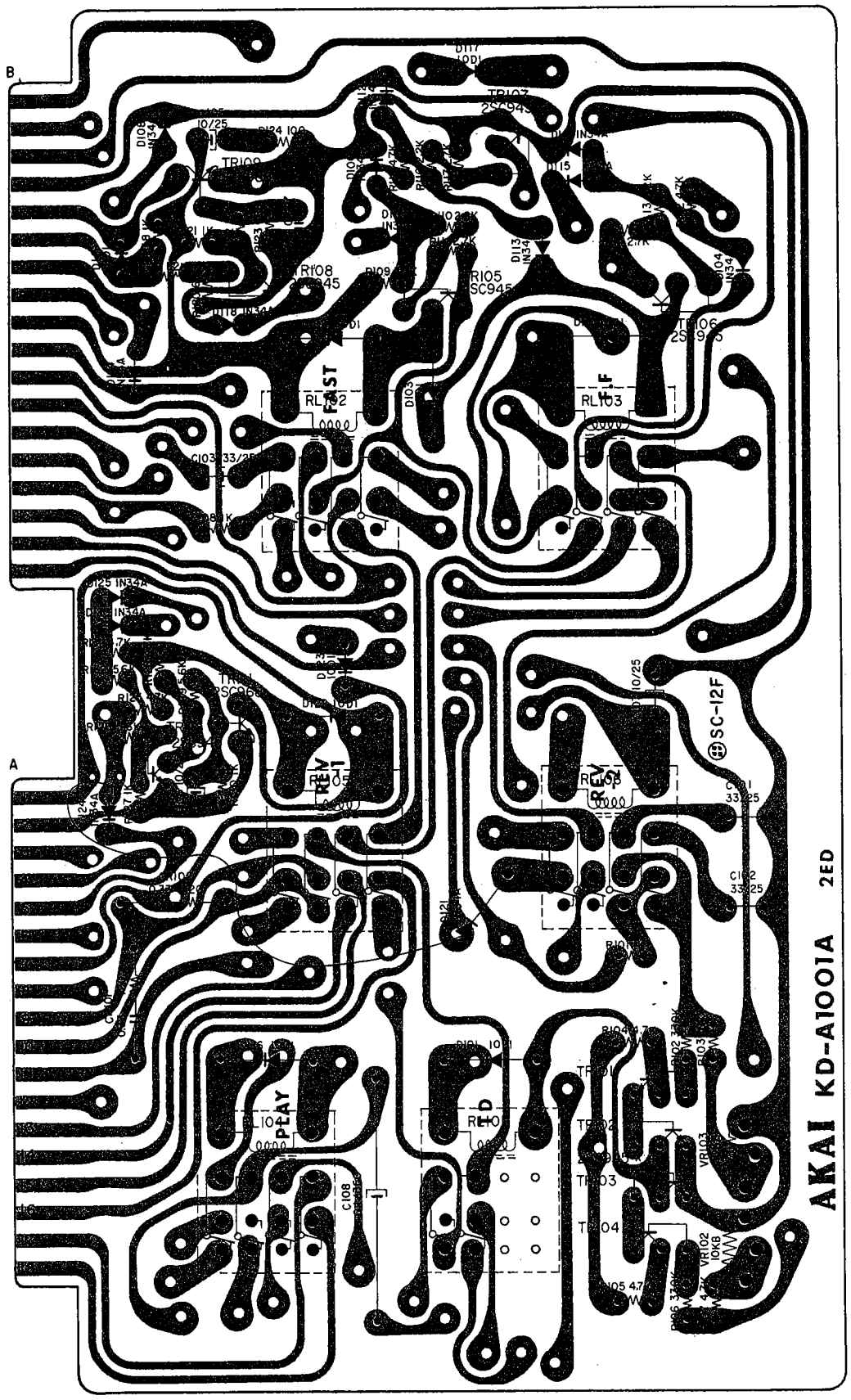


TR201,203,204,207 – 2SC711(D.E)
TR202,205 – 2SA564(R)
TR209,252 – 2SD234(Y)
TR253 – 2SC968(3.4)
TR206 – 2SC711(G.F)
TR208 – 2SC945(R.S)
TR251 – 2SC1013

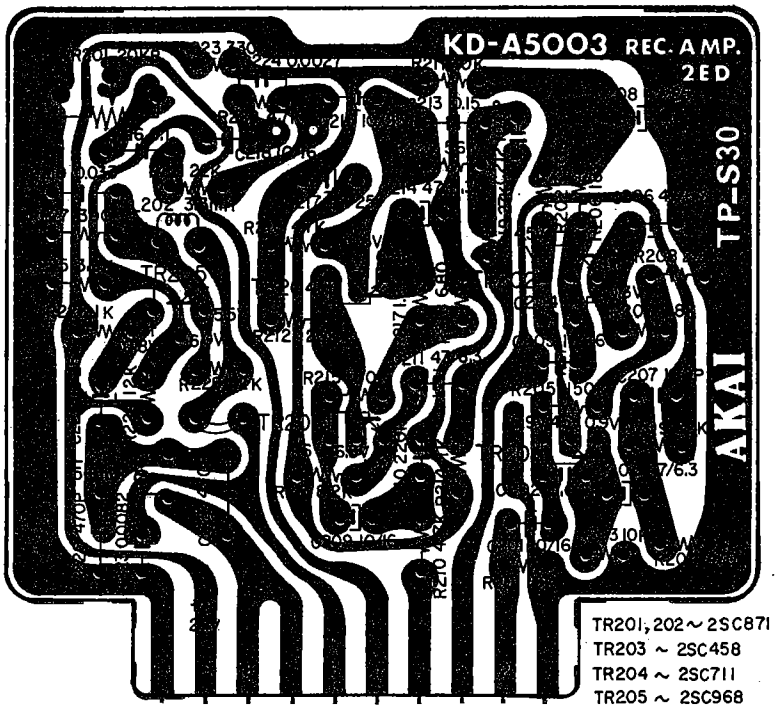
OSCILLATOR P.C. BOARD (KD-A 5004)



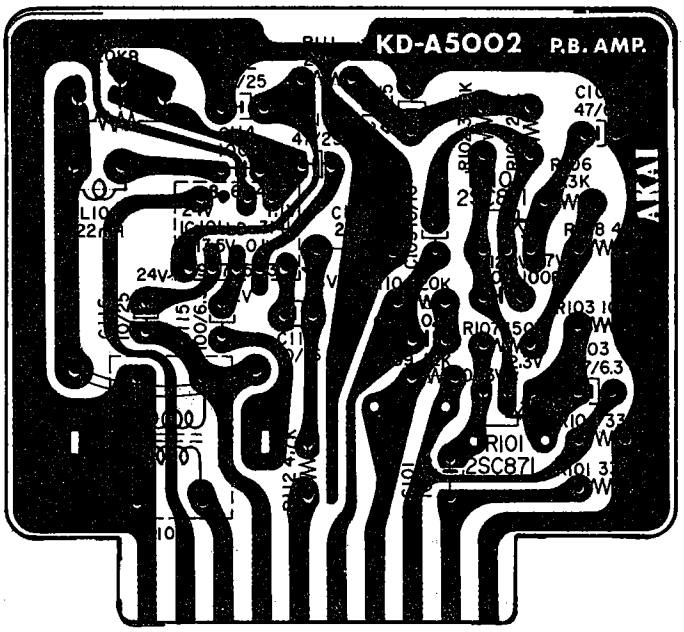
SYSTEM CONTROL P.C. BOARD (KD-A 1001 A)



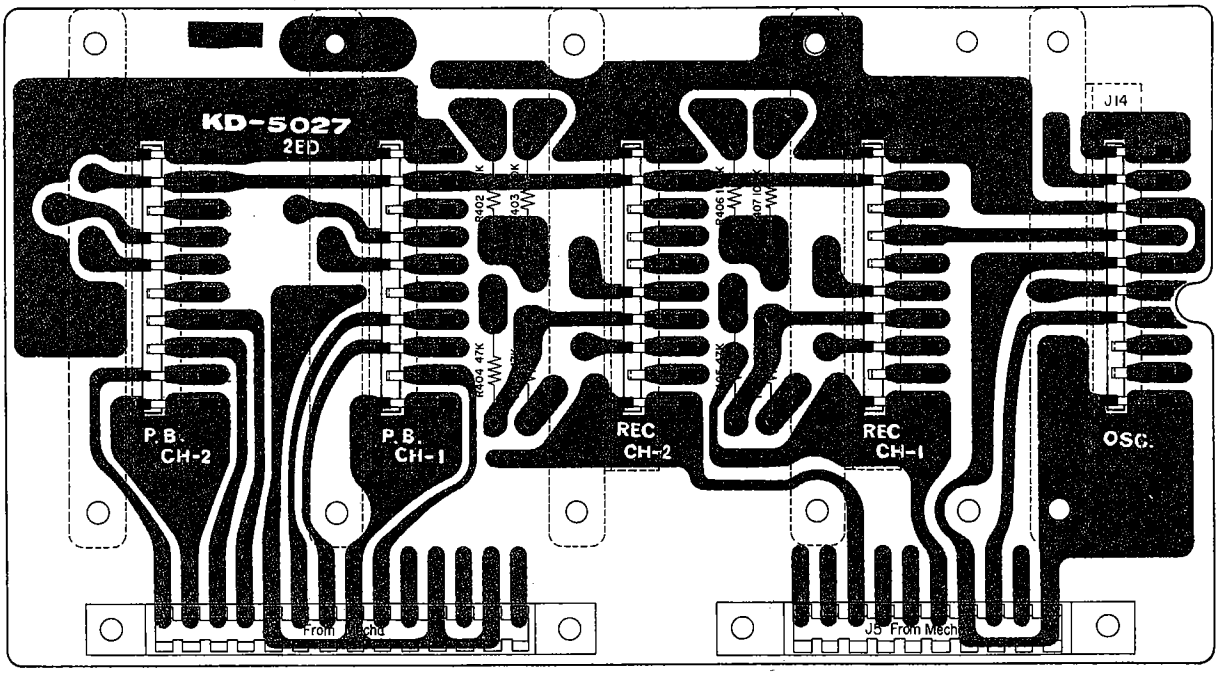
RECORDING AMP. P.C. BOARD (KD-A 5003)



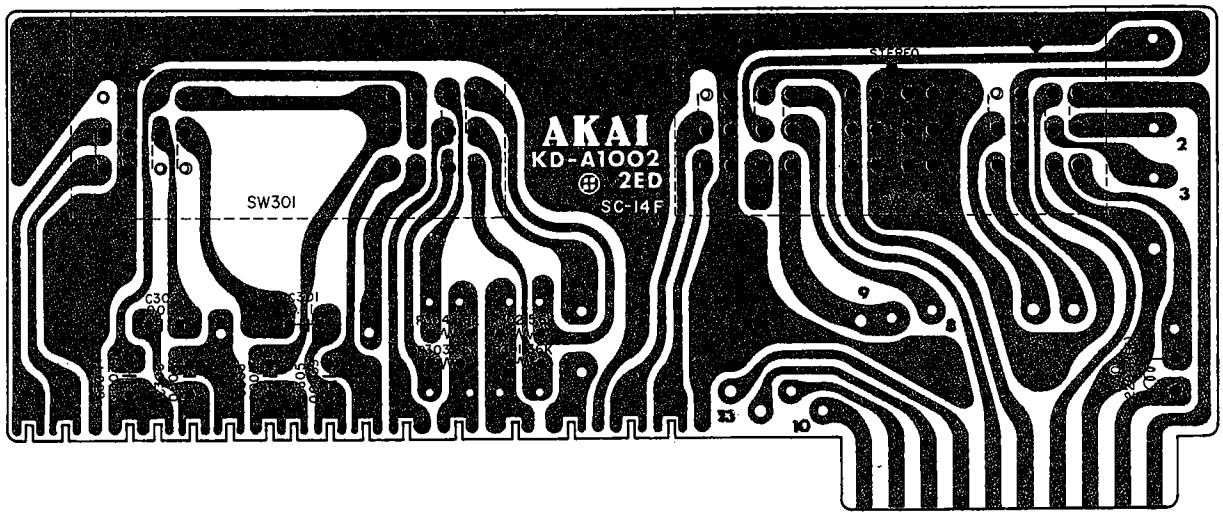
PLAYBACK AMP. P.C. BOARD (KD-A 5002



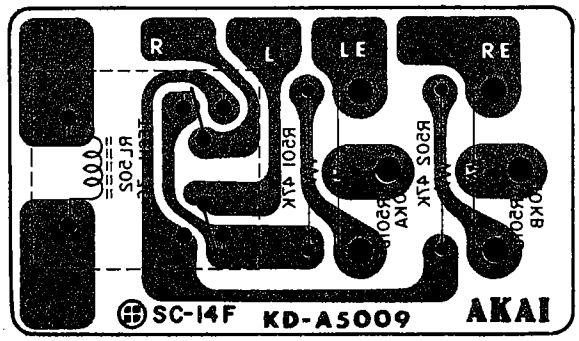
PRE-AMP. CHASSIS P.C. BOARD (KD-5027)



SELECTOR SWITCH P.C. BOARD (KD-A 1002)



TONE CONTROL P.C. BOARD (KD-A 5009)



IX. TROUBLE SHOOTING CHART

SECTION A TROUBLE WITH TRANSPORT MECHANISM

Symptom	Remarks	
Capstan does not rotate even with Power Switch turned on.	VU Meter lamp does not light (No Power Source). VU Meter lamp lights.	Check position of Automatic Shut-Off Switch (Set to neutral (out) position). Motor or Servo-Circuit (see Servo-Circuit Trouble Shooting). Check contact point of Relay RV 2 and TD.
Capstan rotates during play-back mode, but reels do not rotate.	Check R_1a (60 Ω 20 W) R2a (350 Ω 60 W) and connection wires. Check each relay (Fwd, Rev, Rwd).	Replace broken wire. Repair faulty contact. Repair faulty contact point. Repair or replace relay.
Faulty reverse operation.	Does not reverse from forward mode. Does not forward from reverse mode.	Check Reverse Sensing Pole. Check TR-110 (2SC945), 111 (2SC968), Check Relay Rev 1. Rev 2. Check reverse sensing pole. Check TR-110 (2SC945).
Does not rewind.	Rewind operation SW-15 defective. Supply Reel Motor defective. Check AC Power Voltage. Accumulation of dust particles on tape surface.	Replace Switch. Replace. Clean tape. Check TR105 (2SC945), RL102 (FAST)
Does not Fast Forward.	Fast Forward opration SW-15 defective. Take-up reel motor defective. Accumulation of dust particles on tape surface.	Replace Switch. Replace. Clean tape. Check TR105,106 (2SC945), RL102 (FAST) RL103 (FF)
Magnetic brake operation faulty.	Brake solenoid does not work. Brake Solenoid works	Solenoid coil defective—Replace. Check F.Fwd Rwd. Relay. Diode 10D4 (D3) short—Replace. Adjustment or brake lever spring faulty—Readjust. SW-8 (Micro Switch) defective—Replace.
Wow/Flutter.	Check to see whether brake shoe is touching reel table. Check pinch roller pressure. Excessive torque motor vibration. Main motor revolutions faulty.	Adjust brake. Pressure should be 2 kg ±100 gr. Replace motor. See main motor and servo-circuit trouble shooting.

SECTION B TROUBLE WITH MAIN (SERVO) MOTOR

Symptom	Remarks	
Incorrect motor revolutions.	Possible to adjust speed (see adjustment methods).	Adjust speed.
	Impossible to adjust speed.	
	Check output of detector head (output of both terminals).	In case head output is low (speed high), rotor gap is too wide—Adjust. (0.5 mm is normal)
	Correct Values : 60 mV p-p at 7-1/2 ips 30 mV p-p at 3-3/4 ips	In case of no output at all (speed high), head is defective—Replace.
	Motor Coil defective.	Replace.
	Motor Condenser defective.	Replace.
	B+ (24 V) voltage supply.	Check TR-206, 207, 208, and 209.
	No. B+ Voltage supply.	Servo print board—Replace. Check DC supply circuit.

SECTION C TROUBLE WITH AMPLIFIER R

1. Play Mode Playback Pre-Amp Car KD-5023

Symptom	Remarks	
No sound from Line Out Jack.	No B+ Voltage Supply.	Diode D-252, TR-252, TR-253 on KD-5023 Play Card defective—Replace. Check VR-252 (1 KB).
	B+ Voltage Supply.	Check working order of Transistors TR-101 and TR-102 and IC-101. Check working order of circuit (see voltage written in schematic).
Will play, but volume insufficient.	B+ Voltage low.	Diode D-252 or Transistor TR-253 defective-Replace.
	B+ Voltage normal.	Oxide deposits have accumulated on head-Clean head. Playback Head defective—Replace.
Humming noise.	When Playback Head is grounded noise decreases.	Playback Head defective—Replace.
	Grounding Playback Head does not alter hum.	Power Supply Circuit TR-253, C-251, C-252, or other C.R. defective Replace.
Sound distorted.	Oxide has accumulated on Playback Head.	Clean Head.
	Check to see if B+ Voltage is normal.	In case B+ Voltage is low, check Power Supply Circuit. In case B+ Voltage is normal, check voltage of pre-amplifier parts.
	Check Bias Voltage.	In case Bias Voltage is incorrect, readjust bias by turning TC-301, 302 (50 p to 70 p). Demagnetize Rec. Head
Hissing noise.	TR-101, TR-102, C-101, IC-101 Defective.	Replace.
	Head magnetized.	Demagnetize head.
	Defective playback head coil.	Replace.

Symptom	Remarks	
Recording Level Low.	Dirty Head. Faulty adjustment of recording and playback level. Tape itself defective.	Clean Head. Follow adjustment procedure.
Sound drop out.	VU Meter indication and monitoring sound normal. VU Meter fails and monitoring sound not normal.	Readjust head alignment Tape old or defective. Poor contact component connections.
Irregular Scratching or Clacking noise.	Transistor TR-101, TR-102, IC-101 defective.	Replace.
	Resistor R-102, R-105, C-101 defective.	Replace.
Squeaking noise.	Oxide collected on head surface.	Clean head.
	Tape itself squeaks.	Clean or replace tape.
Lack of Treble.	Oxide collected on Playback Head surface.	Clean head.
	Discrepancy in Playback Head Azimuth Alignment.	Re-adjust.
	Head defective.	Replace head.

2. RECORDING MODE

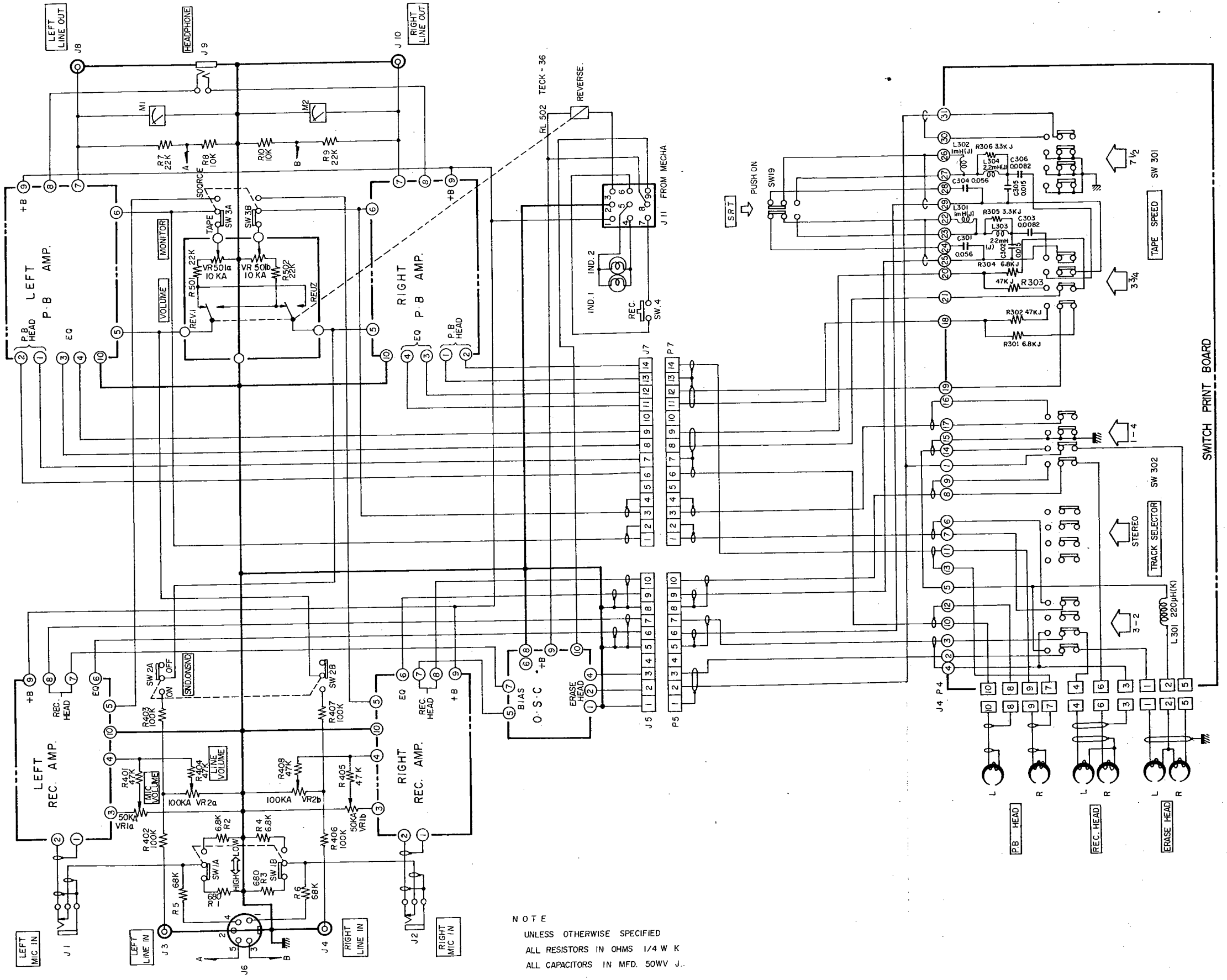
Symptom	Remarks	
Does not record.	No VU Meter indication.	Recording input signal level is too low. Check working order of TR-201, 202, 203, and 204 on Rec. Amp Card (KD-5024).
	VU Meter indicates properly.	Oxide collected on surface of recording head–Clean head. Transistor TR-205 defective–Replace. Check working order of TR-205. Check Relay RL-301 (on OSC Card KD-5025).
	Check to see whether OSC circuit is operating (check Bias supply).	If not operating, check TR-301, 302, L-301. Check TR-107, TR-108.
Sound distorted.	VU Meter operating properly and recording monitor sound also normal.	Check bias voltage and bias oscillator circuits. Clean head. TR-205 defective–Replace.
	VU Meter operating properly, but monitor sound distorted.	Recording input signal level excessive. Recording input signal distorted.

AKAI

AKAI ELECTRIC CO., LTD. 12-14, 2-chome, Higashi-Kojiya,
AKAI TRADING CO., LTD. Ohta-ku, Tokyo, Japan

Price $4.00

Printed in Japan



NOTE

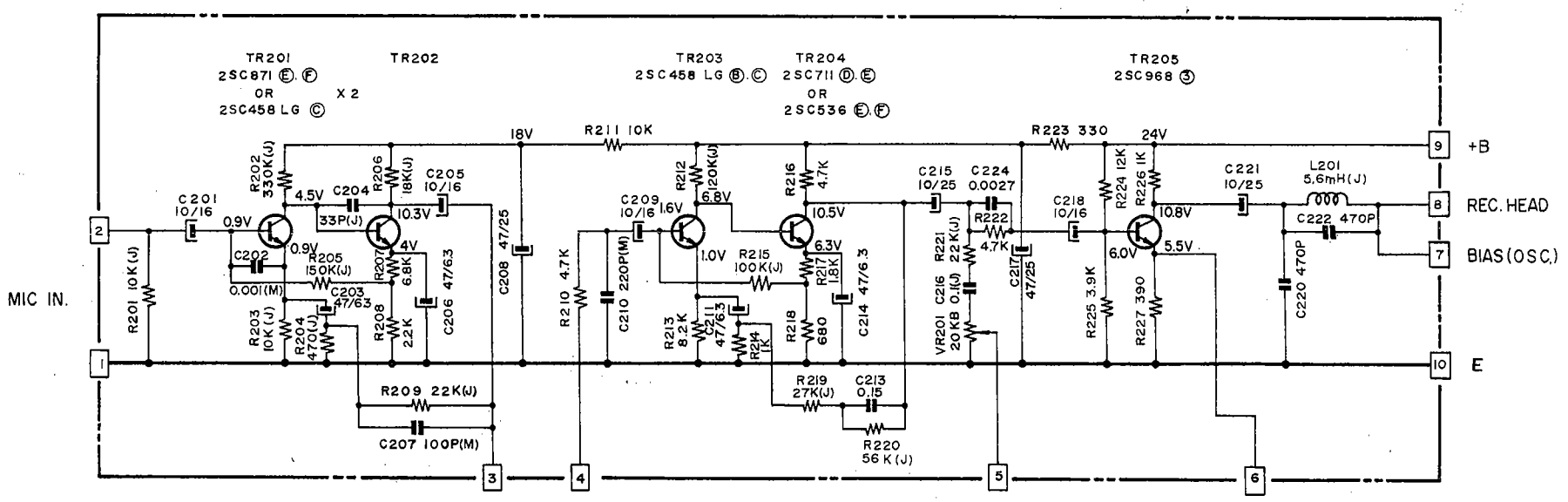
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4 W K

ALL CAPACITORS IN MFD. 50WV J..

GX-280D (AMP, HEAD, SWITCH BLOCK) SCEMATIC DIAGRAM

NO.7-1 1420840B



NOTE

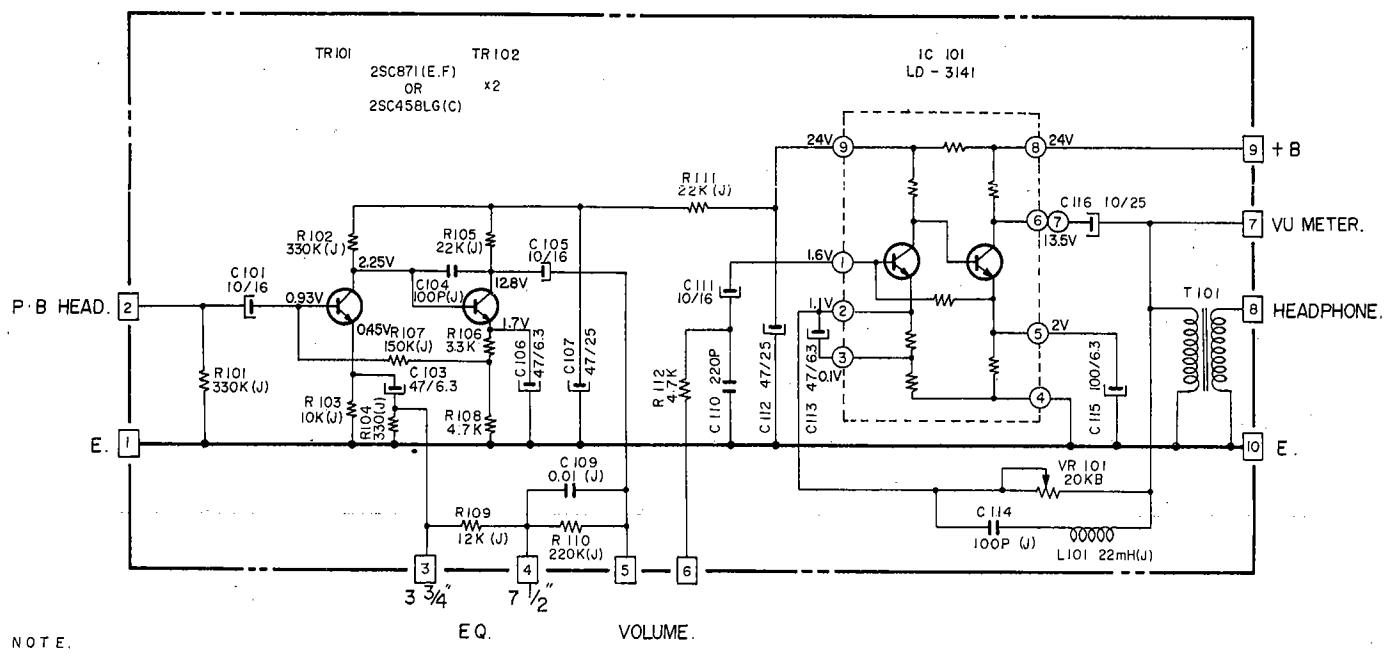
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4 W (K).

ALL CAPACITORS IN MFD (J) 50WV, MFD/WV.

(P=M·MFD)

GX-280D (REC. AMP.) SCHEMATIC DIAGRAM NO.7-2 1420841B 2C



NOTE.

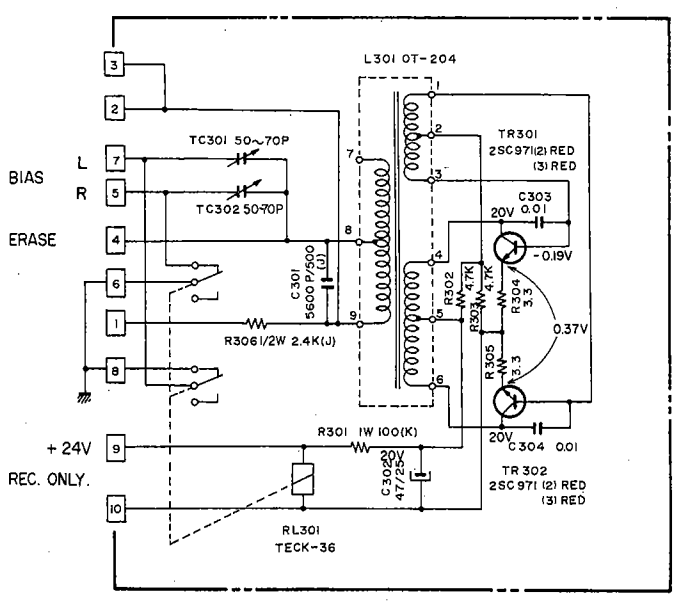
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4 W (K).

ALL CAPACITORS IN MFD. (K) 50WV, MFD/WV

(P = M·MFD)

GX-280D (P·B. AMP.) SCHEMATIC DIAGRAM NO.7-3 1420842B 2C



NOTE

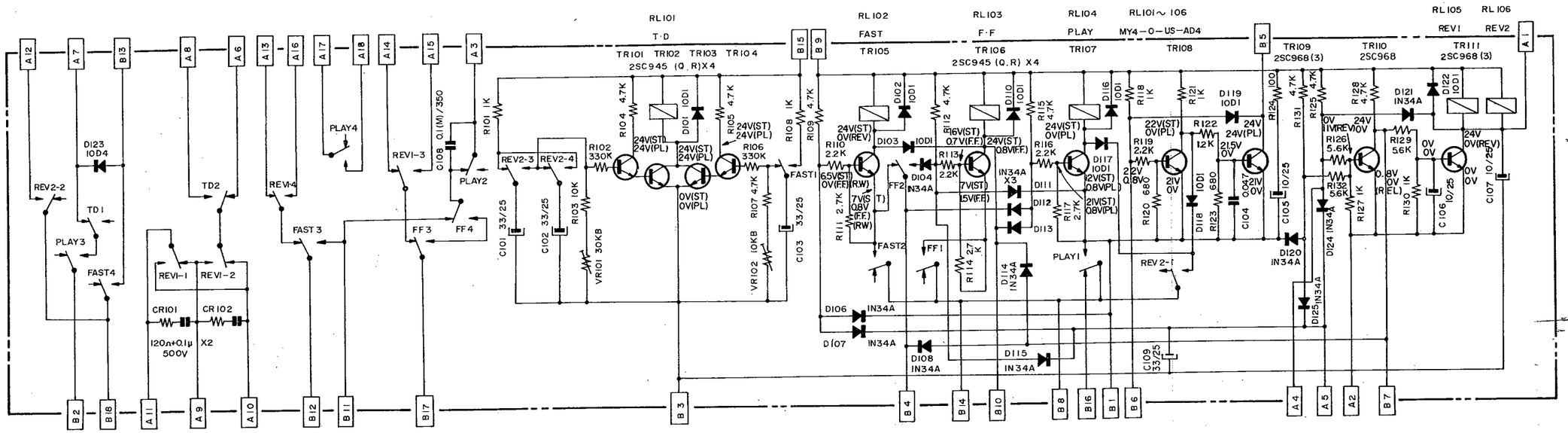
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4 W. (J)

ALL CAPACITORS IN MFD(J) 50WV, MFD/WV

(P=M·MFD)

GX-280D (O.S.C.) SCHEMATIC DIAGRAM NO.7-4 1420843A 2C



NOTE

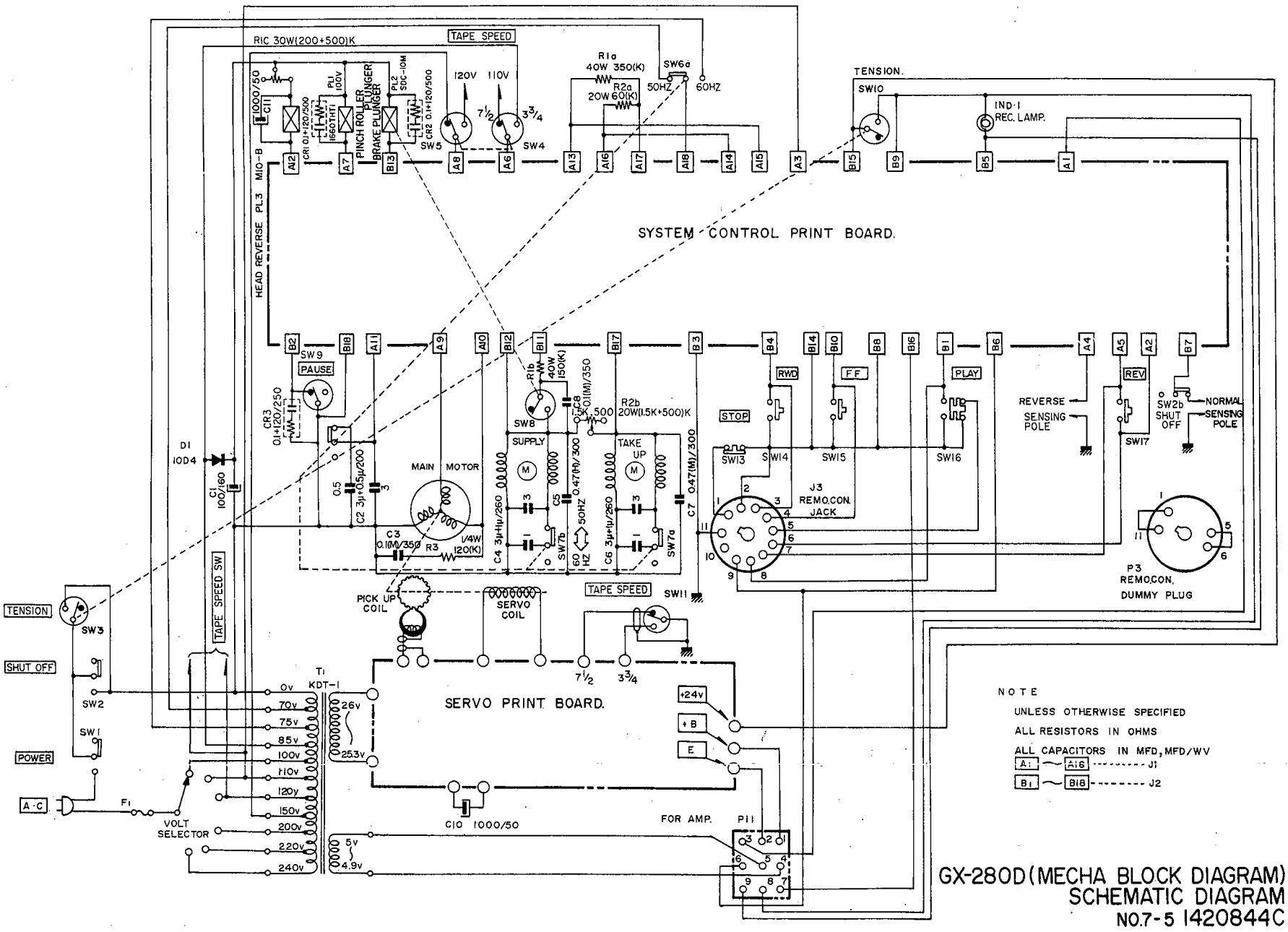
UNLESS OTHERWISE SPECIFIED

ALL RESISTORS IN OHMS 1/4W(K)

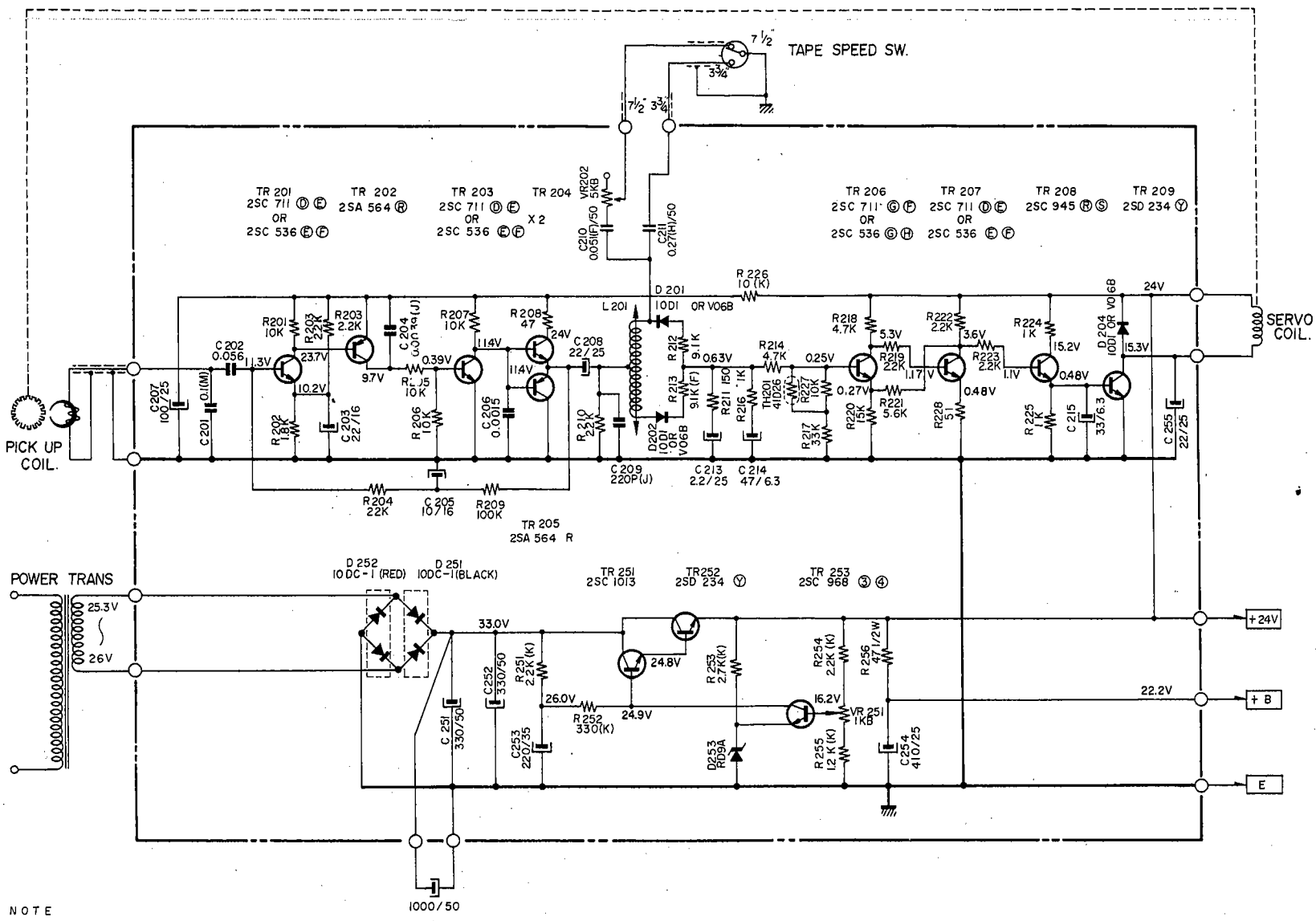
ALL CAPACITORS IN MFD 50WV (K)

MFD/WV.

GX-280D (SYSTEM CONTROL) SCHEMATIC DIAGRAM NO.7-6 1420845B 2C



GX-280D(MECHA BLOCK DIAGRAM)
SCHEMATIC DIAGRAM
NO.7-5 1420844C



GX-280D 2-SPEED (SERVO.) SCHEMATIC DIAGRAM NO.7-7 1420846A
2C

PARTS LIST

AKAI TAPE DECK

MODEL GX-280D

WHEN YOU ORDER THESE PARTS,
PLEASE DESCRIBE THEIR PARTS NO.
AND SERIAL NO. IN DETAIL

TABLE OF CONTENTS

HEAD BLOCK (KG) 3
REEL MOTOR & REEL TABLE BLOCK 5
SERVOMOTOR (SCM-24) BLOCK 7
MECHANISM ASSEMBLY BLOCK 7
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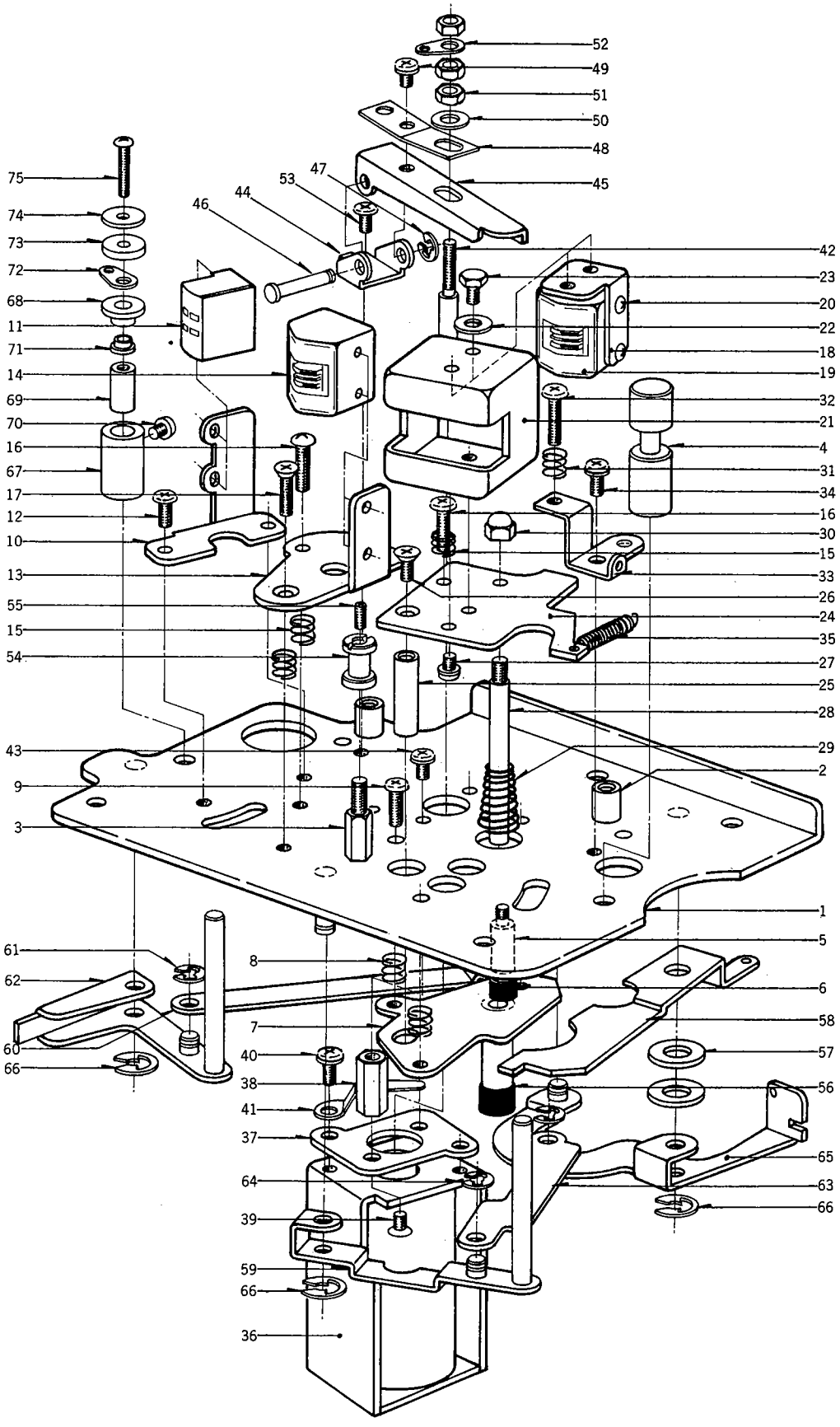
SYSTEM CONTROL P.C. BOARD (KD-A1001) BLOCK 11
PLAYBACK AMP. P.C. BOARD (KD-A5002) BLOCK 12
RECORDING AMP. P.C. BOARD (KD-A5003) BLOCK 13
OSCILLATOR P.C. BOARD (KD-A5004) BLOCK 14
SWITCH P.C. BOARD (KD-A1002) BLOCK 15
PRE-AMP. CHASSIS P.C. BOARD (KD-5027) BLOCK 16
POWER SOURCE BLOCK 19
SUB PANEL (RIGHT) BLOCK 20
AMPLIFIER ASSEMBLY BLOCK 22
FINAL ASSEMBLY BLOCK. 24

Note : * mark shows more than 10 pieces.

ILLUSTRATION OF HEAD BLOCK (KG)

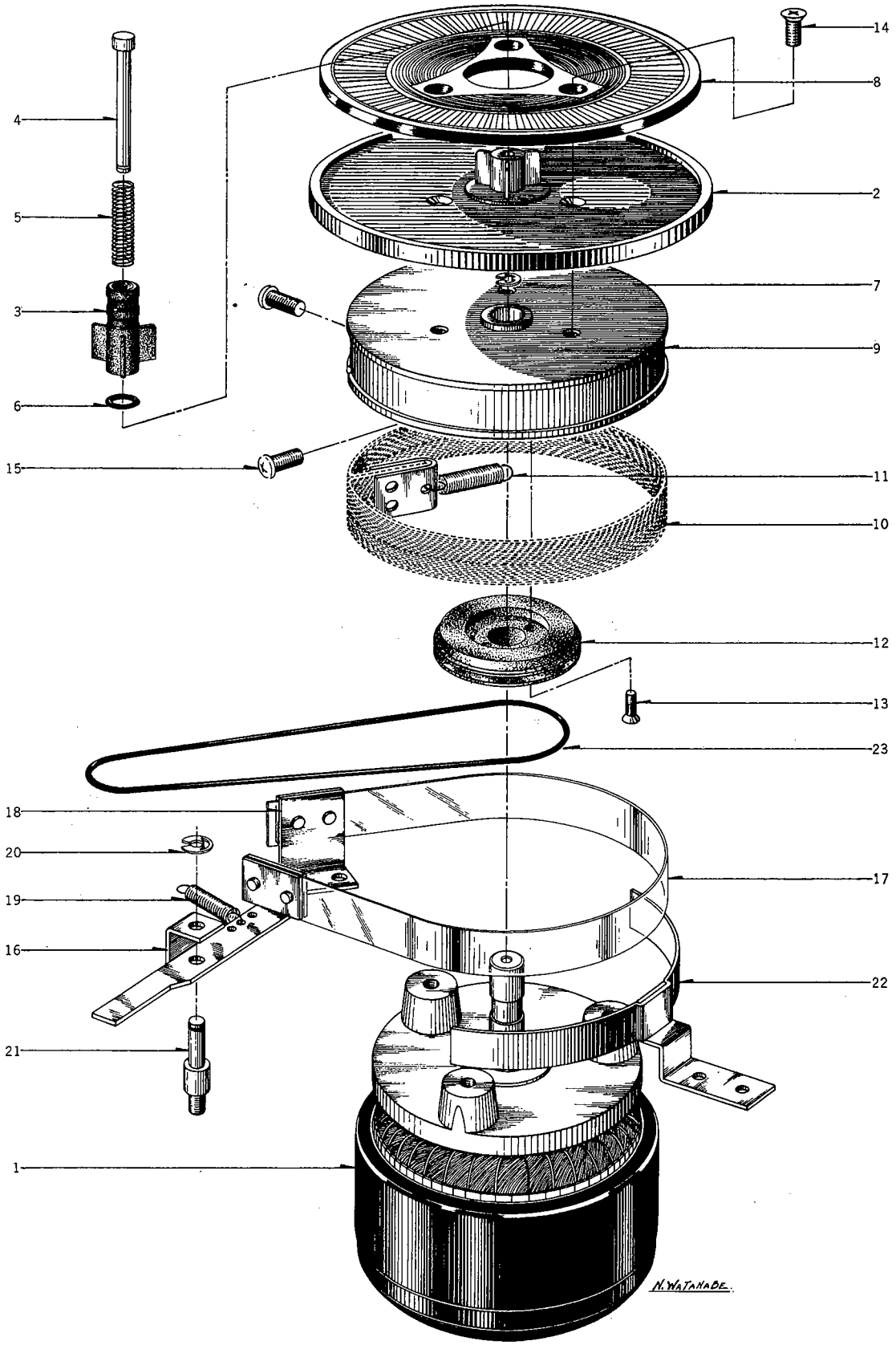


HEAD BLOCK (KG)

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	A-426240	KG Head Assy. Comp.	KG	1
1	A-426486	Head Chassis, w/shaft	KD-A0001	1
2	A-396494	Prop, Mech. Panel	KD-0006	2
–	A-403301	Screw, binding head 3 x 6 w/washer		1
–	A-200305	Screw, countersunk head 3 x 5		1
3	A-412637	Tape Guide Post	RD-A30	1
–	A-273756	M3 Nut		1
4	A-803597	Tape Guide A	RD-3	1
–	A-434250	Screw, pan head 4 x 8 w/washer		1
5	A-434272	Shifter Stopper Collar	KD-A0010	1
6	A-428343	KD Stopper Rubber	KD-1088	1
–	A-417148	Screw, binding head 3 x 15		1
7	A-426666	PH Adjusting Base, w/metal	KD-A0004	1
8	A-206144	Angle Adjusting Spring	RD-16	3
9	A-426611	Screw, binding head 3 x 12		2
–	A-426655	Screw, binding head 3 x 20		1
10	A-382680	Erase Head Base	RD-A5	1
11	A-412187	ERASE HEAD E4-250	E4-250	1
–	A-426677	Erase Head Terminal Plate	RD-A32	1
–	A-201464	Screw, pan head 2 x 3		2
12	A-323728	Screw, binding head 3 x 5		2
–	A-273778	M3 Earth Lug		1
13	A-382691	RH Head Angle	RD-A6	1
14	A-384513	RECORDING HEAD R4-200	R4-200	1
–	A-383646	Screw, pan head 2 x 4		2
15	A-382757	Angle Adjusting Spring D	RD-A12	3
16	A-336868	Screw, round head 3 x 12		2
17	A-200226	Screw, countersunk head 3 x 12 D = 5		1
18	A-382656	PH Head Angle	RD-A2	1
19	A-384524	PLAYBACK HEAD P4-200	P4-200	1
20	A-383646	Screw, pan head 2 x 4		2
21	A-382667	PB. Shield Case	RD-A3	1
22	A-426622	Washer (SPC) 3.4 x 7.8 x 0.5t		2
23	A-403312	Hexagon Bolt 3 x 4		2
24	A-426497	PH Head Base	KD-A0002	1
25	A-426508	PH Hold-Down Guide	KD-A0003	1
26	A-200362	Screw, countersunk head 3 x 5 D = 5		1
27	A-345982	Screw, binding head 3 x 5 w/washer		2
28	A-809987	PH Hold-Down Shaft	RD-15	1
29	A-321445	RD Reverse Spring	RD-18	1
–	A-259648	Washer (PBP) 3 x 5 x 0.1t		1
30	A-273868	M3 Cap Nut		1
31	A-303300	Angle Adjusting Spring B	RD-55	1
32	A-345914	Screw, round head 3 x 10		1
33	A-810011	PH Base Stopper B	RD-19	1
34	A-345982	Screw, binding head 3 x 5 w/washer		1
35	A-810055	PH Hold-Down Tension Spring	RD-52	1
36	A-804813	Plunger Solenoid M-10B-34V	44-1-16	1
37	A-317698	Plunger Base	RD-21	1
38	A-321344	Plunger Mounting Prop	RD-7	2
39	A-200362	Screw, countersunk head 3 x 5 D = 5		2
40	A-345982	Screw, binding head 3 x 5 w/washer		1
–	A-323728	Screw, binding head 3 x 5		1
41	A-321366	Reaining Plate	3A-72	1
42	A-321377	Plunger Joint A	RD-22	1
43	A-328577	Screw, binding head 3 x 8 w/washer		2
44	A-320940	PH Hold-Down Lever Retainer	RD-23	1
45	A-809998	PH Hold-Down Lever	RD-24	1
46	A-257477	Conjunction Pin	RD-211	1
47	A-270088	"E" Ring 1.9M	6-1-9	1
48	A-246857	Pull Lever Spring	RD-25	1
49	A-345982	Screw, binding head 3 x 5 w/washer		1
50	A-426587	Washer (SPC) 3.1 x 8 x 0.5t		1
51	A-273756	M3 Nut		3
52	A-273778	M3 Earth Lug		1
53	A-413223	Screw, binding head 3 x 5 w/washer		1
–	A-364915	10P Multi-Jack PB01-10S-24F2G	31-4-15	1
–	A-373318	Nylon Clip HP-3N		1
54	A-231884	Tape Guide B	RD-5	1
55	A-384840	Set Screw 3 x 5		1
56	A-321434	Dust Cover Cap B	RD-54	1
57	A-260201	Washer (nylon) 6.2 x 13 x 1t		2
58	A-433890	Shifter Stopper B	KD-A0011	1
59	A-426510	Shifter Lever (1), w/pin	KD-A0005	1
60	A-426543	Shifter Joint (1)	KD-A0008	1
61	A-270101	"E" Ring 3.0M	6-1-9	1
62	A-426521	Shifter Lever (2), w/pin	KD-A0006	1
63	A-426554	Shifter Joint (2)	KD-A0009	1
64	A-270101	"E" Ring 3.0M	6-1-9	1
65	A-426565	Shifter Lever (3), w/pin	KD-A0007	1
66	A-290283	"U" Ring 2.85M	6-1-1	3
–	A-435003	Sensing Guide (B) Comp.	KD	1
67	A-396584	Sensing Guide C	KD-0015	1
68	A-396595	Sensing Guide D	KD-0016	1
69	A-396797	Sensing Guide	KD-0036	1
70	A-425441	Screw, pan head 3 x 3		1
71	A-317632	Insulator Collar A	MR-36	1
72	A-273778	M3 Earth Lug		1
73	A-396505	Insulator Collar	KD-0007	1
74	A-396786	Tape Guide Washer	KD-0035	1
75	A-202252	Screw, round head 2.3 x 12		1

When you order these parts, Please describe their Parts No. and Serial No. in detail

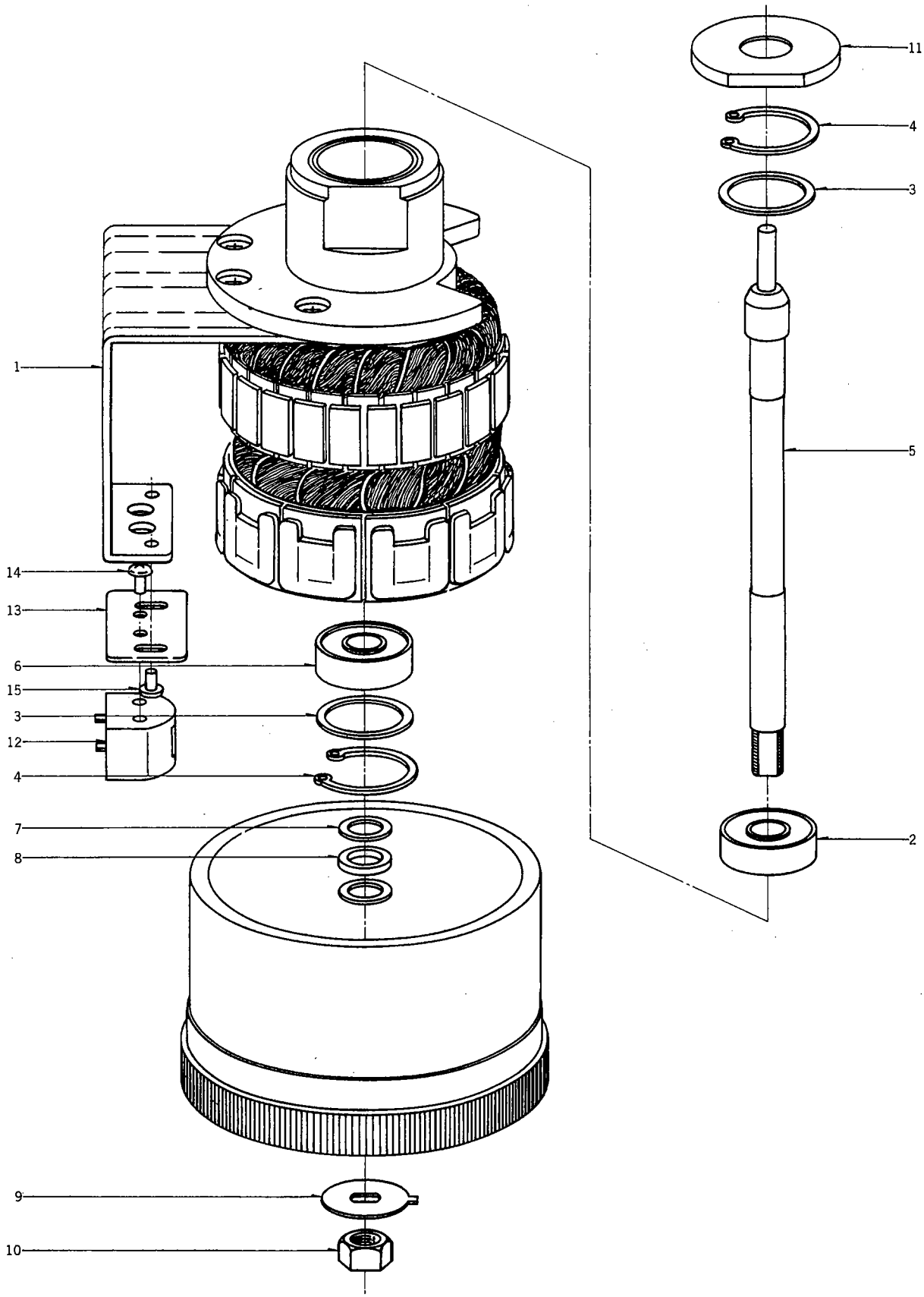
ILLUSTRATION OF REEL MOTOR & REEL TABLE BLOCK



REEL MOTOR & REEL TABLE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
1	B-314741	Reel Motor Assy. Comp. 24X0-2	KD,MS,MR	2
–	B-398430	KD Supply Reel Table Assy. Comp.	KD	1
–	B-398441	KD Take-up Reel Table Assy. Comp.	KD	1
2	B-431651	RD Reel Table	RD-272	2
3	B-255420	Reel Retainer	3R-102	2
4	B-342000	Reel Shaft	3R-108	2
5	B-255633	Reel Spring	3R-109	2
6	B-297663	3R-O Ring 2.9 x 1.65	3R-139	2
7	B-270088	"E" Ring 1.9M	6-1-9	2
8	B-397225	Reel Table Rubber	KD-2017	2
9	B-317452	Brake Dram (Take-up)	MR-216R	1
–	B-325473	Brake Dram (Supply)	MR-216L	1
–	B-273778	M3 Earth Lug		2
–	B-425981	Screw, binding head 3 x 3		2
10	B-317474	Cloth Tape, Brake Wheel	MR-256	2
–	B-317485	Metal Fitting, U Type	MR-218	2
11	B-317496	Felt Tension Spring	MR-260	2
12	B-317570	Counter Pulley (Take-up)	MR-217	1
13	B-403211	Screw, countersunk head 2.3 x 10		2
14	B-403222	Screw, countersunk head 3 x 10		6
15	B-424056	Screw, pan head 4 x 10		4
16	B-314976	Brake Lever A (Take-up)	MR-210	1
–	B-396810	Brake Lever B (Supply)	KD-1038	1
17	B-314987	Brake Band	MR-213	2
18	B-315000	Brake Band Retiner	MR-214	2
19	B-315011	Brake Lever Spring	MR-116	2
20	B-290283	"U" Ring 2.85M	6-1-1	2
21	B-317373	Brake Lever Prop	MR-102	2
22	B-317406	Brake Band Guide, w/Base	MR-120	2
23	B-303535	Counter Belt D91 x 1.6	3A-617	1

ILLUSTRATION OF SERVOMOTOR (SCM-24) BLOCK



SERVOMOTOR (SCM-24) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	C-423854	Servomotor (SCM-24) Assy. Comp.	KD	1
1	C-405437	Detector Head Mounting Base	KD-7029	1
–	C-405527	Screw, countersunk head 4 x 6		4
2	C-408510	Ball Bearing 608VVC2E-AV2-L	100707	1
3	C-398125	Adjusting Washer A	KD-7029	2
4	C-206021	"C" Ring D = 22	6-1-2	2
–	C-391476	Set Screw, hexagon socket 4 x 4		1
5	C-403817	Servomotor Shaft	KD-7056	1
6	C-248130	Ball Bearing 608VVC2E-B32		1
7	C-321592	Washer (SUS) 8.1 x 13 x 0.3t		2
8	C-356883	Washer (Hycar) 8.3 x 11.8 x 0.5t		1
9	C-398158	Stopping Washer	KD-7022	1
10	C-403536	M7 Nut P = 0.5		1
11	C-398182	Cap	KD-7026	1
12	C-398452	DETECTOR HEAD	KD	1
13	C-400421	Detector Head Plate	KD-3008	1
14	C-201475	Screw, pan head 2 x 3		2
15	C-413155	Screw, binding head 3 x 6		2

MECHANISM ASSEMBLY BLOCK (1)

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		PINCH WHEEL PLUNGER SOLENOID BLOCK		
–	D-428940	Pinch Wheel Plunger Solenoid Assy. Comp.	KG,KA	1
1	D-398610	Plunger Solenoid SDC-10-M-C-100V	44-1-36	1
–	D-224550	Silicon Diode 10D4	45-2-16	1
2	D-396911	Plunger Solenoid Bracket	KD-1028	1
–	D-201835	Screw, binding head 3 x 5		4
3	D-396922	Brack Mask (2)	KD-1029	1
4	D-314346	Screw, binding head 3 x 4		2
–	D-428343	KD Stopper Rubber	KD-1088	2
5	D-396966	Plunger Joint, w/pin	KD-1033	1
6	D-257477	Connection Pin	RD-211	1
7	D-396944	Pinch Wheel Arm Joint	KD-1031	1
–	D-270088	"E" Ring 1.9M	6-1-9	1
8	D-396933	Pinch Wheel Arm, w/shaft	KD-1030	1
–	D-273960	M4 Nut		1
9	D-802980	Spring Supporter	RD-276	2
10	D-428927	Pinch Wheel Tension Spring	KD-1032	1
11	D-273960	M4 Nut		2

When you order these parts, Please describe their Parts No. and Serial No. in detail

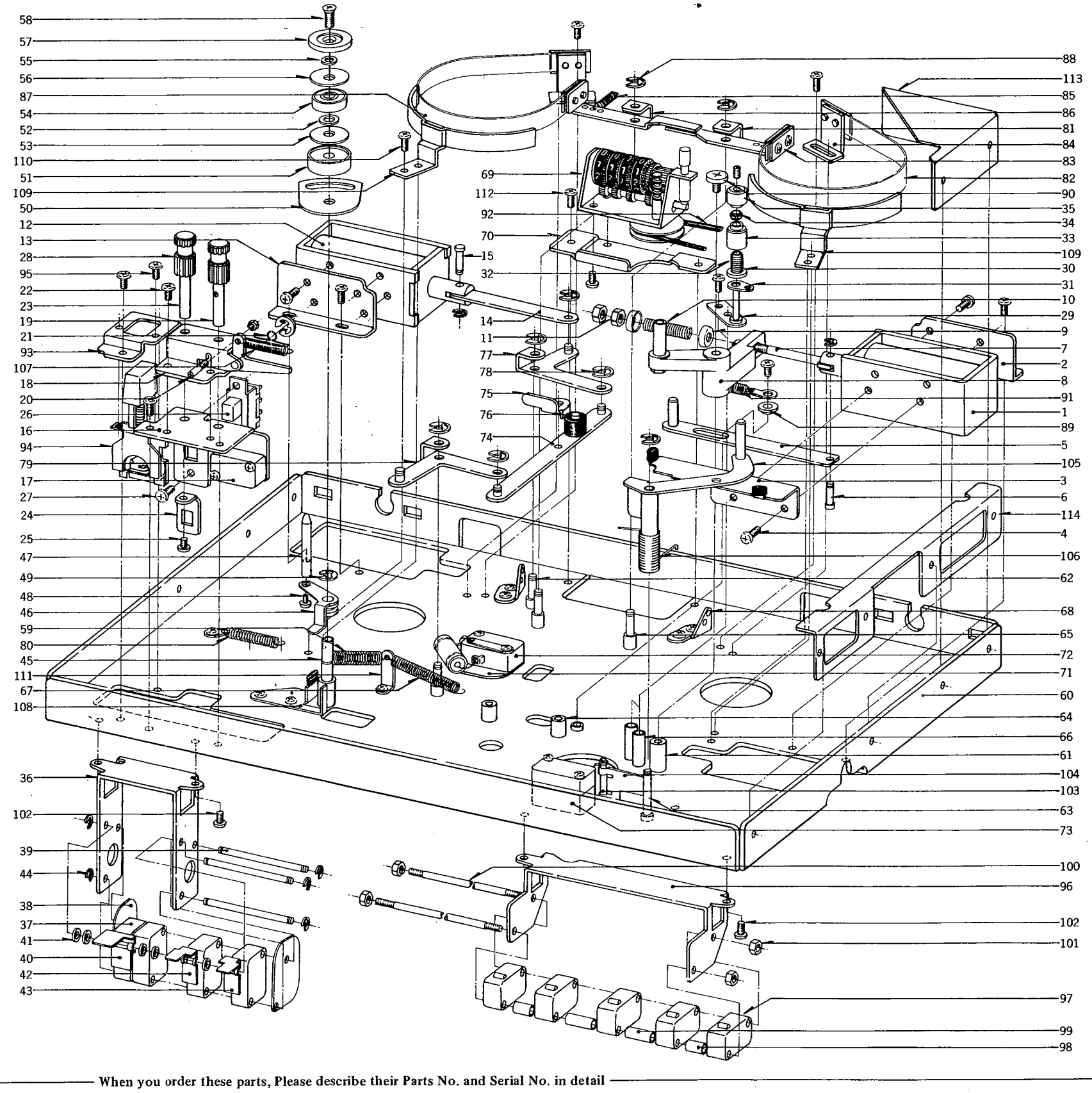
MECHANISM ASSEMBLY BLOCK (2)

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		BRAKE PLUNGER SOLENOID BLOCK		
–	E-398338	Brake Plunger Solenoid Assy. Comp.	KD	1
12	E-398610	Plunger Solenoid SDC-10-M-C-100V	44-1-36	1
–	E-224550	Silicon Diode 10D4	45-2-16	1
13	E-396911	Plunger Solenoid Bracket	KD-1028	1
–	E-201835	Screw, binding head 3 x 5		4
14	E-396977	Brake Plunger Joint	KD-1039	1
15	E-257477	Connection Pin	RD-211	1
–	E-270088	"E" Ring 1.9M	6-1-9	1
		PAUSE & SHUT-OFF SWITCH BLOCK		
–	F-398340	Pause & Shut-Off Switch Comp.	KD	1
16	F-397405	Pause & Shut-Off Switch Base A	KD-2029	1
17	F-250075	Micro Switch V-1A10 U/L	25-1-8	1
–	F-401758	Screw, pan head 3 x 15		2
18	F-397416	Pause & Shut-Off Switch Base B	KD-2030	1
19	F-397451	Pause Shaft	KD-2036	1
20	F-397462	Shut-Off Switch Pin	KD-2037	1
–	F-273734	M2 Nut		1
21	F-397440	Pause Lever Spring	KD-2035	1
–	F-270123	"E" Ring 4.0M	6-1-9	1
22	F-344801	Screw, pan head 3 x 3		2
23	F-397473	Shut-Off Shaft	KD-2038	1
24	F-397484	Shut-Off Switch Plate	KD-2039	1
25	F-202127	Screw, binding head 3 x 6		1
26	F-317531	Slide Switch ESD-271DU	25-3-24	1
27	F-201835	Screw, binding head 3 x 5		2
28	F-397596	Pause & Shut-Off Knob	KD-2041	2
–	F-200711	Set Screw 3 x 3		2
		SENSING GUIDE BLOCK		
–	G-398362	Sensing Guide Block Comp.	KD	1
29	G-396551	Sensing Base, w/prop	KD-2021	1
30	G-396573	Insulator Collar B	KD-2023	1
31	G-397203	Sensing Pole Terminal Plate	KD-2032	1
32	G-396516	Tape Guide Adjusting Spring	KD-2024	1
33	G-396527	Sensing Guide B	KD-2025	1
34	G-397214	Insulator Liner A	KD-2031	1
35	G-397192	Sensing Guide A	KD-2026	1
–	G-200766	Set Screw 3 x 5		1
		SPEED CHANGING SWITCH BLOCK		
–	H-423865	Speed Changing Switch Comp.	KD	1
36	H-397350	Speed Changing Switch Base	KD-2013	1
37	H-250064	Micro Switch V-1A44 U/L	25-1-7	4
38	H-402377	Insulator Paper D	KD-2050	2
–	H-273778	M3 Earth Lug		1
39	H-397372	Switch Lever Shaft	KD-2015	3
40	H-397383	Speed Changing Switch Lever (2)	KD-2016	1
41	H-259525	Washer (SPC) 3.1 x 8 x 1t		5
42	H-403492	Speed Changing Switch Lever A	KD-2056	1
43	H-403503	Speed Changing Switch Lever B	KD-2056	1
44	H-270088	"E" Ring 1.9M	6-1-9	6
–	H-397337	Switch Sparcer A	KD-2005	3
		GUIDE ROLLER BLOCK		
–	I-434992	Guide Roller Block Comp.	KD	1
45	I-432358	Guide Roller Shaft	KD-A2002	1
46	I-432832	Tension Arm, w/pulley	KD-A2003	1
47	I-432360	Tension Pole	KD-A2004	1
48	I-413166	Screw, round head 3 x 6		1
49	I-317103	Snap Ring E-40	6-1-12	1
50	I-434316	Roller Mask	KD-A2005	1
51	I-434970	Tape Guide Base A	KD-A2006	1
52	I-231794	Tape Guide Washer (Small)	3A-355	2
53	I-231805	Tape Guide Washer (Large)	3A-356	1
54	I-248117	Ball Bearing 635AHZZ-CIE-B32		1
55	I-259470	Washer (SUP) 3.1 x 8 x 0.25t		2
56	I-231805	Tape Guide Washer (Large)	3A-356	1
57	I-434981	Tape Guide Base B	KD-A2007	1
58	I-411660	Screw, round head 3 x 6		1
59	I-317114	Tension Lever Spring	MR-39	1
		ASSEMBLY BLOCK		
60	J-396990	Mechanism Frame	KD-1001	1
61	J-397001	Pinch Wheel Arm Shaft	KD-1002	1
–	J-274026	M5 Spring Washer		1
–	J-413278	M5 Nut		1
62	J-397012	Brake Lever Shaft	KD-1003	2
–	J-413188	M4 Nut		2
63	J-397023	Tension Arm Shaft	KD-1004	1
64	J-397034	Head Base Prop	KD-1005	4
–	J-416687	Screw, binding head 4 x 8		4
65	J-317373	Brake Lever Shaft	MR-102	2
66	J-397168	Sensing Base Prop	KD-1062	2
–	J-413741	Screw, binding head 3 x 8		2
–	J-402546	Stopper Collar	KD-1070	1
67	J-434248	Shifter Spring B	KD-A1008	1
–	J-273881	M4 Earth Lug		1
–	J-397045	Sys. Con. Connector Prop	KD-1006	4
–	J-397170	Transformer Base C	KD-1065	2
68	J-397080	Spring Hang	KD-1010	2
–	J-323728	Screw, binding head 3 x 5		4
69	J-399521	Tape Counter M-470D	9-1-14	1
70	J-397078	Counter Base	KD-1009	1
–	J-323728	Screw, binding head 3 x 5		2
71	J-250413	Micro Insulator Paper C	RC-127	1
72	J-250064	Micro Switch V-1A44 U/L	25-1-7	1
–	J-422965	Screw, pan head 3 x 15		2
–	J-273464	MP Capacitor 0.1μF (M) 350WV DC	24-9-4	1
73	J-250064	Micro Switch V-1A44 U/L	25-1-7	2
–	J-397146	Micro Switch Nut	KD-1057	1
–	J-414066	Screw, binding head 3 x 25		2

When you order these parts, Please describe their Parts No. and Serial No. in detail

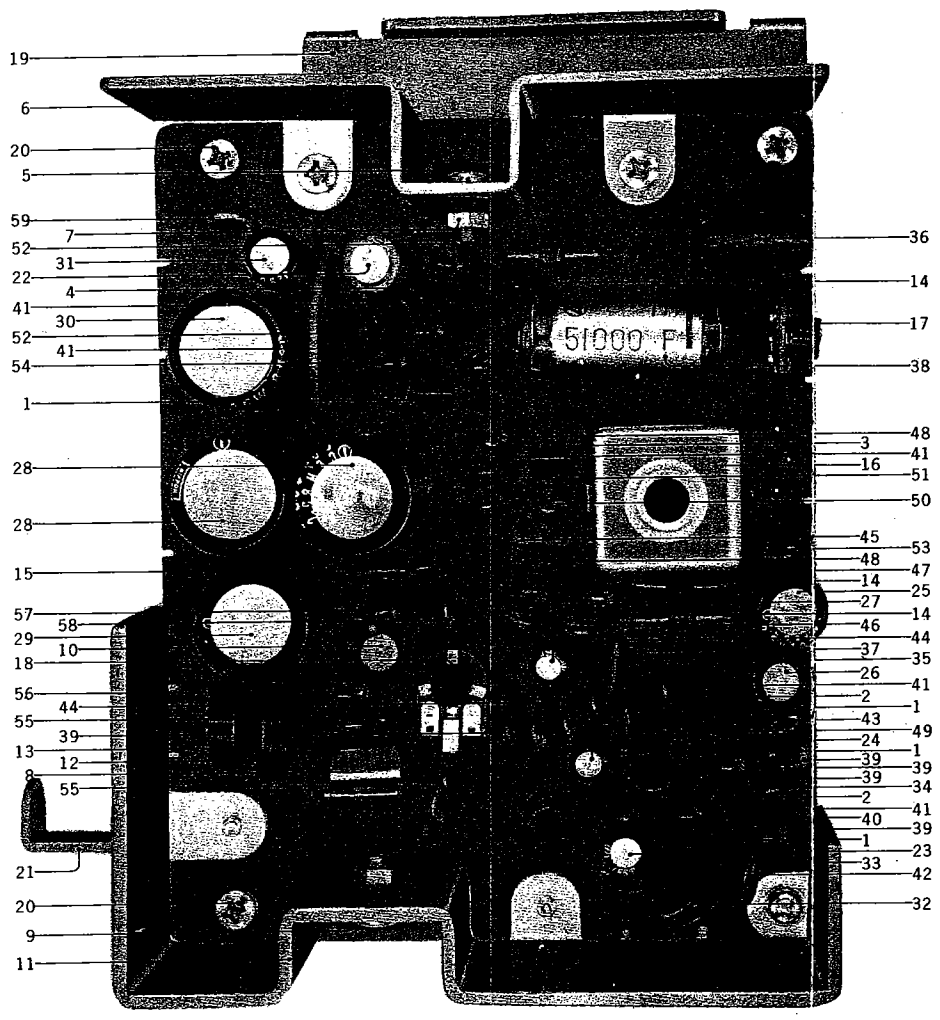
Ref. No.	Parts No.	Description	Schematic No.	Quantity
74	J-396832	Brake Slide, w/pin	KD-1044	1
75	J-396843	Switch Plate	KD-1045	1
–	J-417137	Screw, binding head 3 x 4		1
76	J-397181	Lever Cushion	KD-1069	1
77	J-396742	Brake Lever, w/pin	KD-1041	1
78	J-290283	"U" Ring 2.85M	6-1-1	2
79	J-396854	Tension Arm Lever	KD-1047	1
80	J-407575	Shifter Lever Spring	KD-1078	1
81	J-314976	Brake Lever A	MR-210	1
82	J-314987	Brake Band	MR-213	1
83	J-314998	Brake Band Retaining Plate	MR-212	4
84	J-315000	Brake Band Retiner	MR-214	2
–	J-323728	Screw, binding head 3 x 5		12
85	J-315011	Brake Lever Spring	MR-116	2
86	J-396810	Brake Lever B	KD-1038	1
87	J-314987	Brake Band	MR-213	1
8	J-290283	"U" Ring 2.85M		2
–	J-414257	Main Motor Shield Plate KD	KD-1083	1
89	J-397157	Graduated Washer	KD-1036	1
–	J-273778	M3 Earth Lug		1
–	J-413155	Screw, binding head 3 x 6		1
90	J-243516	Set Screw, Pinch Wheel	XR-140	1
91	J-208091	Spring, Stabilizer Arm	RD-269	1
92	J-303535	Counter Belt D91 x 1.6	3A-617	1
93	J-397394	Power Switch Base	KD-2028	1
94	J-246025	Push Switch UEG-12BP U/L	25-5-11	1
95	J-371856	ISO Screw, binding head 3 x 5		2
–	J-210521	Push Button Switch Knob	RD-506	1
96	J-397315	Operation Switch Base	KD-2003	1
97	J-250075	Micro Switch V-1A10 U/L	25-1-8	5
98	J-397337	Switch Spacer A	KD-2005	2
99	J-397348	Switch Spacer B	KD-2006	2
100	J-397326	Switch Shaft	KD-2004	2
101	J-273756	M3 Nut		4
102	J-323728	Screw, binding head 3 x 5		6
103	J-408497	Switch Lever Shaft	KD-1080	1
104	J-409083	Micro Switch Lever	KD-1081	1
105	J-396900	Shut-Off Lever, w/metal	KD-1052	1
106	J-409015	Tension Arm Spring C	KD-1079	1
107	J-232121	Tension Lever Spring	A330-D116	1
108	J-433721	Stopper	KD-A1006	1
–	J-428343	KD Stopper Rubber	KD-1088	1
–	J-255093	Lug Plate VB1L1	33-4-1	1
109	J-317406	Brake Band Guide, w/Base	MR-120	2
110	J-323728	Screw, binding head 3 x 5		4
–	J-348208	Tension Arm S Spring	RX-213	1
–	J-424023	Pinch Wheel	KD-1084	1
111	J-434237	KD Spring Hang	KD-A1007	1
112	J-323728	Screw, binding head 3 x 5		2
113	J-397528	Corner Angle B (Right)	KD-6003	1
–	J-397517	Corner Angle A (Left)	KD-6003	1
114	J-397541	Side Angle B (Right)	KD-6004	1
–	J-397530	Side Angle A (Left)	KD-6004	1

ILLUSTRATION OF MECHANISM ASSEMBLY BLOCK



When you order these parts, Please describe their Parts No. and Serial No. in detail

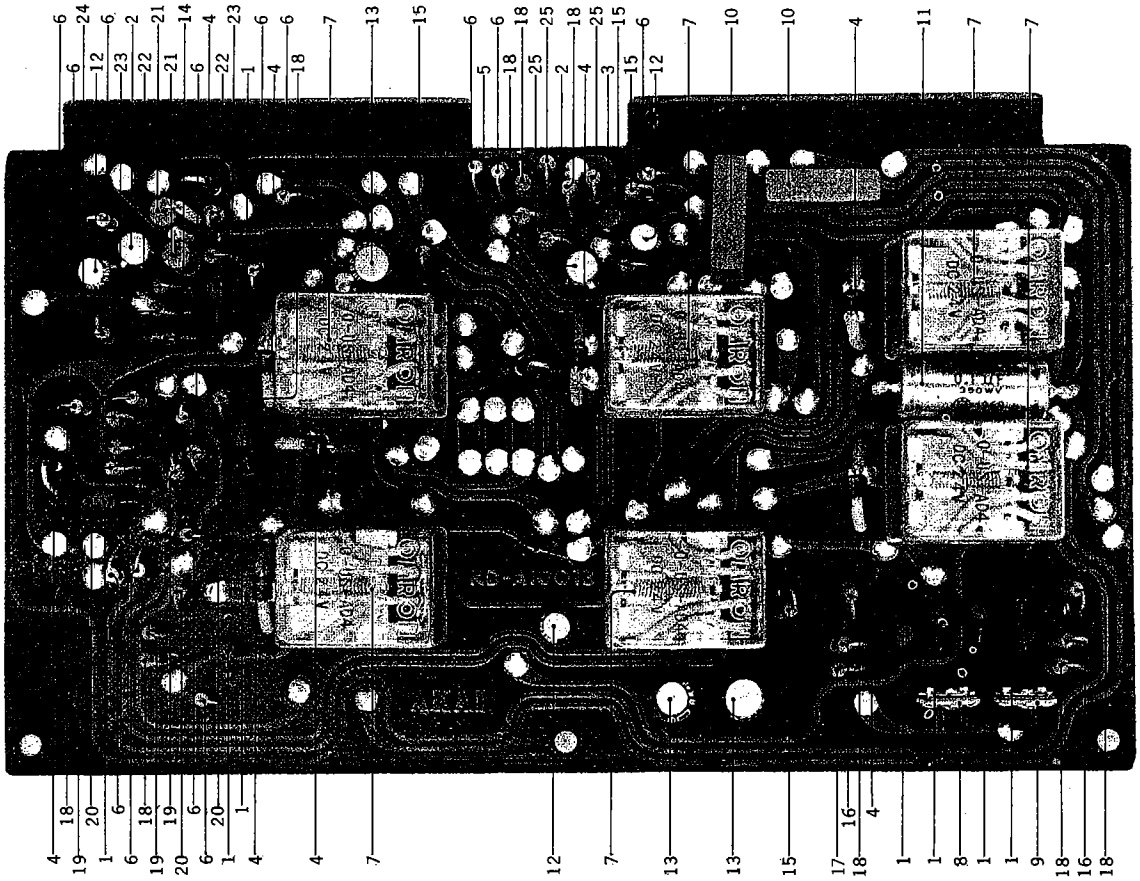
PHOTO OF SERVOMOTOR CONTROL P.C. BOARD (KD-1087)



SERVOMOTOR CONTROL P.C. BORAD (KD-1087) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	K-423876	Servomotor Control P.C. Board Assy. Comp.	KD-1087	1
1	K-379462	Transistor 2SC711(D,E)	TR201.3.4.7	4
2	K-356984	Transistor 2SA564(R)	TR202.5	2
3	K-398777	Transistor 2SC711(G,F)	TR206	1
4	K-399936	Transistor 2SC945(R,S)	TR208	1
5	K-403042	Transistor 2SD234(Y)	TR209	1
6	K-407586	Heat Sink Plate B	KD-1077	1
–	K-421806	Screw, pan head 3 x 8		1
7	K-273756	M3 Nut		1
8	K-408971	Transistor 2SC1013	TR251	1
9	K-403042	Transistor 2SD234(Y)	TR252	1
10	K-391138	Transistor 2SC968(3,4)	TR253	1
11	K-405213	Heat Sink Plate	KD-1075	1
–	K-413155	Screw, binding head 3 x 6		2
–	K-413741	Screw, binding head 3 x 8		2
12	K-329130	Silicon Diode 10DC-1 (Black)	D251	1
13	K-329128	Silicon Diode 10DC-1 (Red)	D252	1
14	K-224526	Silicon Diode 10D1	D201.2.4	3
15	K-384096	Zener Diode RD-9A	D253	1
16	K-403446	Variable Coil VI-2031 SC-01	L201	1
17	K-398812	Semi-variable Volume V10K-5 5KB	VR202	1
18	K-398834	Semi-variable Volume V10K-5-2-4 1KB	VR251	1
19	K-397721	Servo P.C. Board Retaining Plate	KD-1058	1
–	K-397743	P.C. Board Prop	KD-2044	4
20	K-413155	Screw, binding head 3 x 6		4
21	K-397732	Bracket	KD-1059	1
		Capacitor, Vertical Type	C	
22	K-368280	Aluminum Solid 33μ 6.3WV	215	1
23	K-331705	Electrolytic 22μF 16WV	203	1
24	K-320051	Electrolytic 10μF 16WV	205	1
25	K-220151	Electrolytic 100μF 25WV	207	1
26	K-350684	Electrolytic 22μF 25WV	208	1
27	K-220432	Electrolytic 2.2μF 25WV	213	1
28	K-403468	Electrolytic 330μF 50WV	251, 52	2
29	K-372148	Electrolytic 220μF 35WV	253	1
30	K-331817	Electrolytic 470μF 25WV	254	1
31	K-350684	Electrolytic 22μF 25WV	255	1
32	K-398957	Mylar 0.1μF(M) 50WV	201	1
33	K-251190	Mylar 0.056μF(K) 50WV	202	1
34	K-379787	Mylar 0.0039μF(J) 50WV	204	1
35	K-250661	Mylar 0.0015μF(K) 50WV	206	1
36	K-424091	Mylar 0.27μF(H) 50WV	211	1
37	K-329850	VFM 220PF(J) 50WV	209	1
38	K-424080	Styrol 0.051μF(F) 50WV (Tubular)	210	1
39	K-336442	RD1/4 10K J	201, 5, 6, 7, 27	5
40	K-362441	RD1/4 1.8K J	202	1
41	K-357456	RD1/4 2.2K J	203, 10, 19, 22, 23	5
42	K-212264	RD1/4 22K J	204	1
43	K-361642	RD1/4 47Ω J	208	1
44	K-211757	RD1/4 100K J	209, 15	2
45	K-212016	RD1/4 150Ω J	211	1
46	K-403097	RD1/4P 9.1K F	212	1
47	K-403187	RD1/4P 10K F	213	1
48	K-212883	RD1/4 4.7K J	214, 18	2
49	K-349907	RD1/4 33K J	217	1
50	K-211667	RD1/4 100Ω J	220	1
51	K-213030	RD1/4 5.6K J	221	1
52	K-211465	RD1/4 1K J	224, 25	2
53	K-304290	RD1/4 10Ω J	226	1
54	K-424078	RD1/4 51Ω J	228	1
55	K-357456	RD1/4 2.2K J	251, 54	2
56	K-212681	RD1/4 330Ω J	252	1
57	K-343078	RD1/4 2.7K J	253	1
58	K-306843	RD1/4 1.2K J	255	1
59	K-361642	RD1/4 47Ω J	256	1
		Carbon Resistor, Stopper Type	R	

PHOTO OF SYSTEM CONTROL P.C. BOARD (KD-A1001)

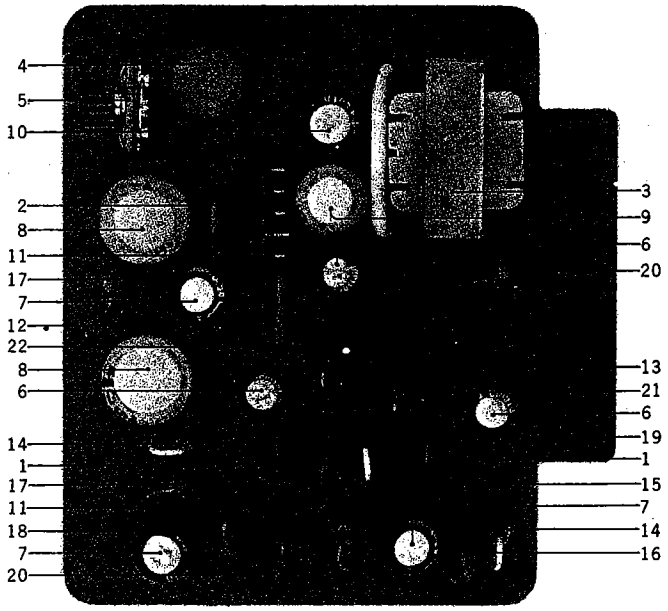


SYSTEM CONTROL P.C. BOARD (KD-A1001) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	L-426284	System Control P.C. Board Assy. Comp.	KD-A1001	1
1	L-398711	Transistor 2SC945(Q,R)	TR101 to 108	8
2	L-338894	Transistor 2SC968(3)	TR109, 11	2
3	L-398711	Transistor 2SC945(Q,R)	TR110	1
4	L-224526	Silicon Diode 10D1	D101, 2, 3, 16, 17, 19, 22	7
5	L-224550	Silicon Diode 10D4	D123	1
6	L-219464	Germanium Diode 1N34A	D104, 6, 7, 8, 11 to 15, 18, 20, 21, 24, 25	14
7	L-433136	Relay MY4-O-US-AD4-24V	RL101 to 106	6
8	L-426936	Semi-variable Volume V10K-5 30KB	VR101	1
9	L-221826	Semi-variable Volume V10K-5 10KB	VR102	1
10	L-376424	Spark Quencher 0.1μ + 120 Ω 500WV	CR101, 2	2
11	L-273464	MP Capacitor 0.1μF(M) 350WV DC	C108	1
12	L-220994	Electrolytic Capacitor 10μF 25WV	C105, 6, 7	3
13	L-220612	Electrolytic Capacitor 33μF 25WV	C101, 2, 3	3
14	L-308711	Mylar Capacitor 0.047μF(K) 50WV	C104	1
		Carbon Resistor, Stopper Type	R	
15	L-211465	RD1/4 1K J	101, 8, 27, 30	4
16	L-362485	RD1/4 330K J	102, 6	2
17	L-336442	RD1/4 10K J	103	1
18	L-212883	RD1/4 4.7K J	104, 5, 7, 9, 12, 15, 25, 28, 31	9
19	L-357456	RD1/4 2.2K J	110, 13, 16	3
20	L-343078	RD1/4 2.7K J	111, 14, 17	3
21	L-391623	1W 1K K (Metal Oxide Film)	118, 21	2
22	L-306843	RD1/4 1.2K J	119, 22	2
23	L-213300	RD1/4 680Ω J	120, 23	2
24	L-211667	RD1/4 100Ω J	124	1
25	L-213030	RD1/4 5.6K J	126, 29, 32	3

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF PLAYBACK AMP. P.C. BOARD (KD-A5002)



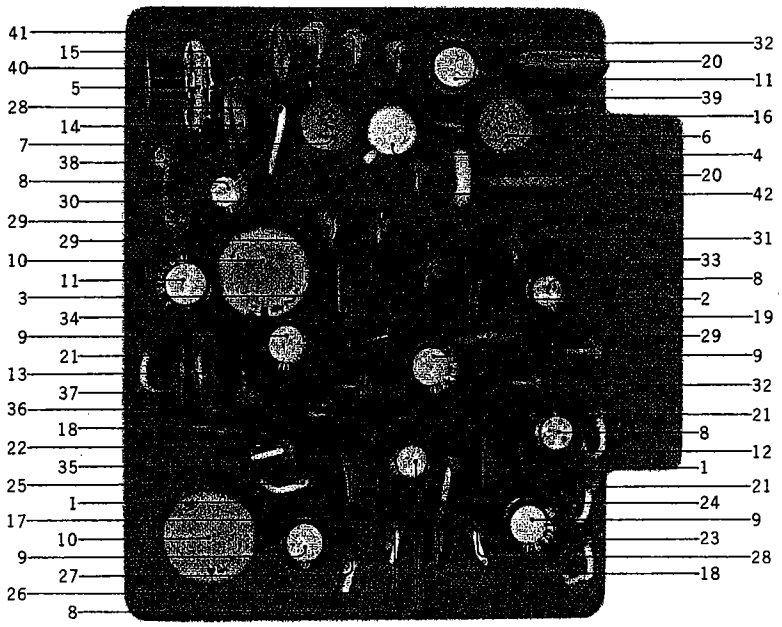
PLAYBACK AMP. P.C. BOARD (KD-A5002) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	M-426341	Playback Amp. P.C. Board Assy. Comp.	KD-A5002	2
1	M-398845	Transistor 2SC871(E,F)	TR101, 2	4
2	M-412413	Line Amp. I.C. LD-3141	IC-101	2
3	M-247768	Headphone Transformer N19-5921S	T-101	2
4	M-244012	Ferri-Inductor FL9H 22MH(J)	L-101	2
5	M-221850	Semi-variable Volume V10K-5 20KB	VR101	2
		Capacitor, Vertical Type	C	
6	M-320051	Electrolytic 10μF 16WV	101, 5, 11	6
7	M-329771	Electrolytic 47μF 6.3WV	103, 6, 13	6
8	M-220678	Electrolytic 47μF 25WV	107, 12	4
9	M-220364	Electrolytic 100μF 6.3WV	115	2
10	M-220994	Electrolytic 10μF 25WV	116	2
11	M-290520	VFM 100PF(J) 50WV	104, 14	4
12	M-290564	VFM 220PF(K) 50WV	110	2
13	M-250841	Mylar 0.01μF(J) 50WV	109	2

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		Carbon Resistor, Stopper Type	R	
14	M-362485	RD1/4 330K J	101, 2	4
15	M-336442	RD1/4 10K J	103	2
16	M-212681	RD1/4 330Ω J	104	2
17	M-212264	RD1/4 22K J	105, 11	4
18	M-212477	RD1/4 3.3K J	106	2
19	M-357570	RD1/4 150KJ	107	2
20	M-212883	RD1/4 4.7K J	108, 12	4
21	M-211858	RD1/4 12K J	109	2
22	M-426857	RD1/4 270K J	110	2

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF RECORDING AMP. P.C. BOARD (KD-A5003)



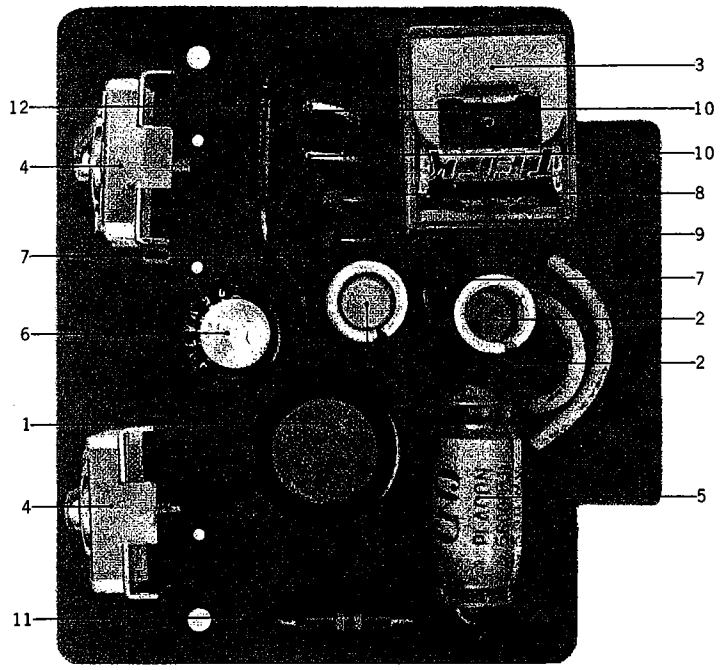
RECORDING AMP. P.C. BOARD (KD-A5003) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	N-426330	Recording Amp. P.C. Board Assy. Comp.	KD-A5003	2
1	N-398845	Transistor 2SC871(E,F)	TR201,2	4
2	N-234843	Transistor 2SC458LG(B,C)	TR203	2
3	N-379462	Transistor 2SC711(D,E)	TR204	2
4	N-338894	Transistor 2SC968(3)	TR205	2
5	N-221850	Semi-variable Volume V10K-5 20KB	VR-201	2
6	N-321254	Ferri-Inductor FL7H 5.6MH(J)	L201	2
7	N-243988	Ferri-Inductor FL7H 3.3MH(J)	L202	2
		Capacitor, Vertical Type	C	
8	N-320051	Electrolytic 10μF 16WV	201,5,9,18	8
9	N-329771	Electrolytic 47μF 6.3WV	203,6,11,14	8
10	N-220678	Electrolytic 47μF 25WV	208,17	4
11	N-220994	Electrolytic 10μF 25WV	215,21	4
12	N-383501	Mylar 0.001μF(M) 50WV	202	2
13	N-368370	Mylar 0.15μF(J) 50WV	213	2
14	N-379170	Mylar 0.1μF(J) 50WV	216	2
15	N-379157	Mylar 0.033μF(J) 50WV	219	2
16	N-411827	Mylar 0.0082μF(J) 50WV	223	2
–	N-379765	Mylar 0.0027μF(J) 50WV	224	2
17	N-399690	VFM 33PF(J) 50WV	204	2
18	N-407272	VFM 100PF(M) 50WV	207,12	4
19	N-407114	VFM 220PF(M) 50WV	210	2
20	N-337487	HI-Q 470PF(J) 50WV	220,22	4

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		Carbon Resistor, Stopper Type	R	
21	N-336442	RD1/4 10K J	201,3,11	6
22	N-362485	RD1/4 330K J	202	2
23	N-304402	RD1/4 470Ω J	204	2
24	N-357570	RD1/4 150K J	205	2
25	N-346994	RD1/4 18K J	206	2
26	N-306360	RD1/4 6.8K J	207	2
27	N-357456	RD1/4 2.2K J	208	2
28	N-212264	RD1/4 22KΩ J	209,21	4
29	N-212883	RD1/4 4.7K J	210,16,22	6
30	N-450011	RD1/4 120K J	212	2
31	N-349942	RD1/4 8.2K J	213	2
32	N-211465	RD1/4 1K J	214,26	4
33	N-211757	RD1/4 100K J	215	2
34	N-362441	RD1/4 1.8K J	217	2
35	N-213300	RD1/4 680Ω J	218	2
36	N-342933	RD1/4 27K J	219	2
37	N-361528	RD1/4 56K J	220	2
38	N-212681	RD1/4 330Ω J	223	2
39	N-211858	RD1/4 12K J	224	2
40	N-352045	RD1/4 3.9K J	225	2
41	N-349784	RD1/4 390Ω J	227	2
42	N-306843	RD1/4 1.2K J	228	2

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF OSCILLATOR P.C. BOARD (KD-A5004)

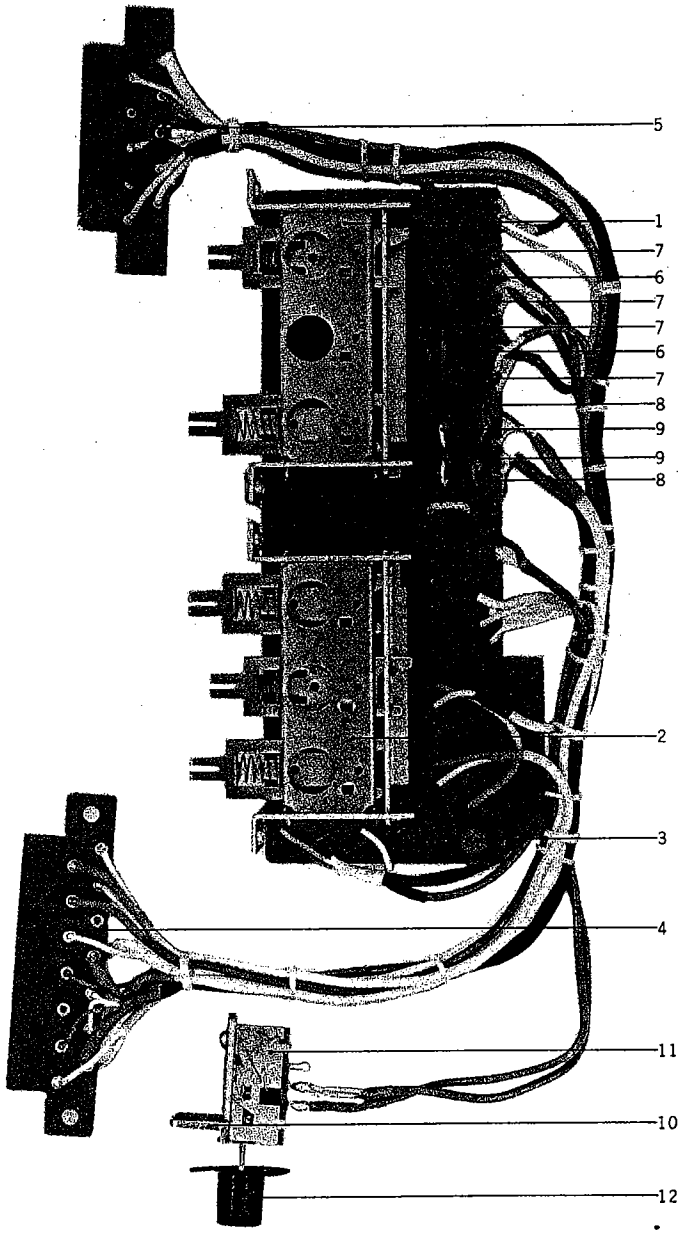


OSCILLATOR P.C. BOARD (KD-A5004) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	O-426352	Oscillator P.C. Board Assy. Comp.	KD-A5004	1
1	O-383365	Oscillator Coil OT-204	L301	1
2	O-304255	Transistor 2SC971(2,3) Red	TR301,2	2
3	O-383321	Relay TECK 36 DC22V 100Ω	RL301	1
4	O-425250	Trimmer Capacitor A-1P3-3 50P to 70P	TC301,2	2
		Capacitor, Vertical Type	C	
5	O-383400	Plastic Film 5600PF(J) 500WV	301	1
6	O-220678	Electrolytic 47μF 25WV	302	1
7	O-250841	Mylar 0.01μF(J) 50WV	303,4	2
		Resistor, Stopper Type	R	
8	O-212883	Carbon RD1/4 4.7K J	302	1
9	O-304402	Carbon RD1/4 470Ω J	303	1
10	O-315944	Carbon RD1/4 3.3Ω J	304,5	2
11	O-426892	Solide RC1/2W 2.4K J	306	1
12	O-398856	Metal Oxide Film 1W 100Ω (K)	301	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF SWITCH P.C. BOARD (KD-A1002)

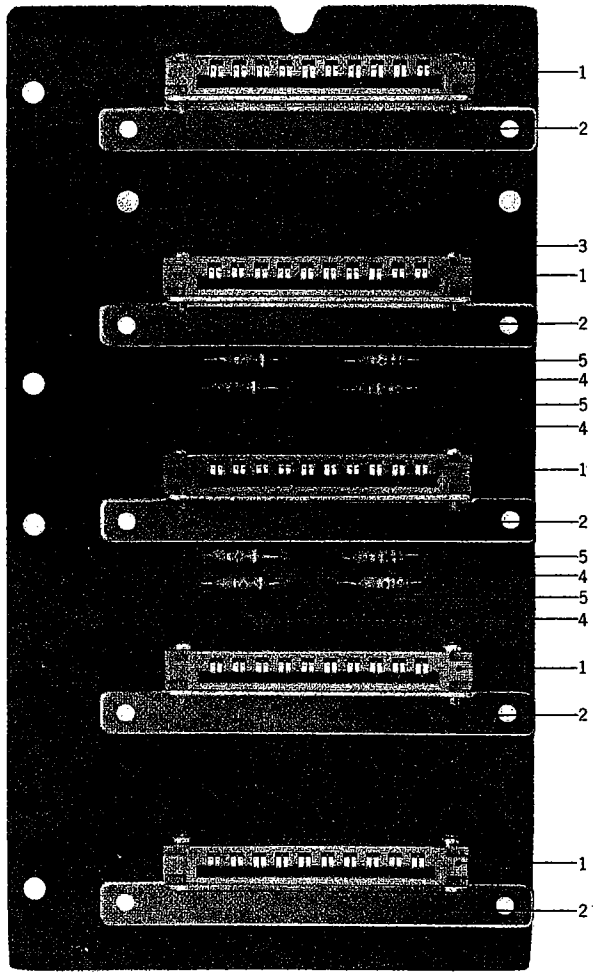


SWITCH P.C. BOARD (KD-A1002) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	P-426273	Switch P.C. Board Assy. Comp.	KD-A1002	1
1	P-424146	Push Switch TUM31218K	SW301	1
2	P-383297	Push Switch TUM31218J	SW302	1
3	P-399914	Ferri-Inductor FL7H 220μH(K)	L301	1
4	P-802214	Connector P.C. Board	RD-140	1
5	P-382713	Head Connector P.C. Board	RD-A8	1
6	P-250841	Mylar Capacitor 0.01μF(J) 50WV	C301, 2	2
7	P-379787	Mylar Capacitor 0.0039μF(J) 50WV	C303, 4, 5, 6	4
8	P-331446	Carbon Resistor RD1/4 36K J	R301, 3	2
9	P-324720	Carbon Resistor RD1/4 5.6K J	R302, 4	2
10	P-426723	SRT Switch Base	KD-A2001	1
11	P-374051	Push Switch UEG-22CP (SRT)	25-5-26	1
–	P-366074	Screw, round head 2.6 x 4		1
12	P-371621	PTA Knob (Black)	ED-615	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF PRE-AMP. CHASSIS P.C. BOARD (KD-5027)



PRE-AMP. CHASSIS P.C. BOARD (KD-5027) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	Q-398542	Pre-Amp. Chassis P.C. Board Comp.	KD-5027	1
1	Q-398733	10P Multi-Jack 500-010-098	31-4-17	5
2	Q-397866	Multi-Jack Mounting Angle	KD-5021	5
3	Q-364397	Screw, pan head 2.3 x 10		10
4	Q-329308	Carbon Resistor RD1/4 47K J	R401, 4, 5, 8	4
5	Q-213715	Carbon Resistor RD1/4 100K J	R402, 3, 6, 7	4
–	Q-292926	10P Multi-Jack 3250-010-098	31-4-8	1
–	Q-293084	14P Multi-Jack 3250-014-098	31-4-7	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF POWER SOURCE BLOCK

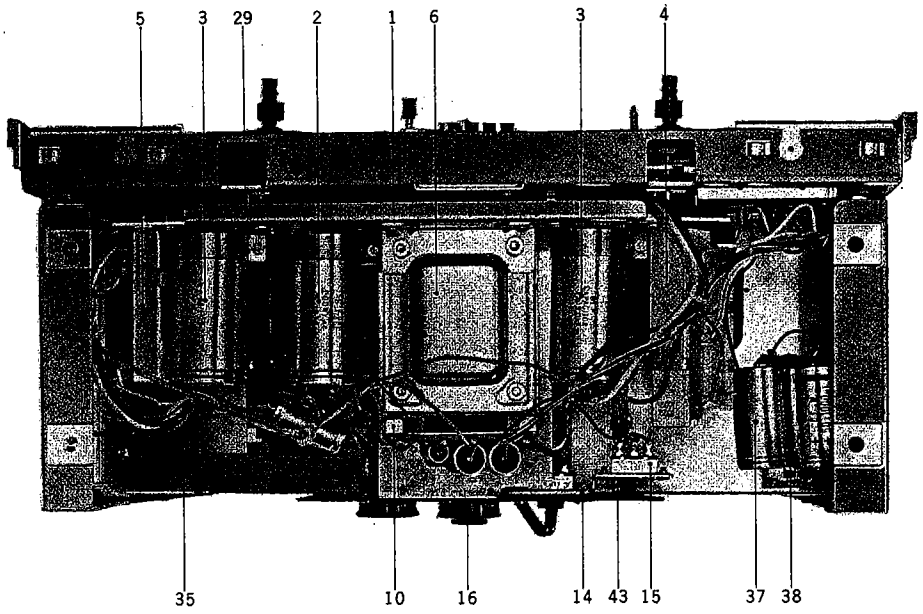
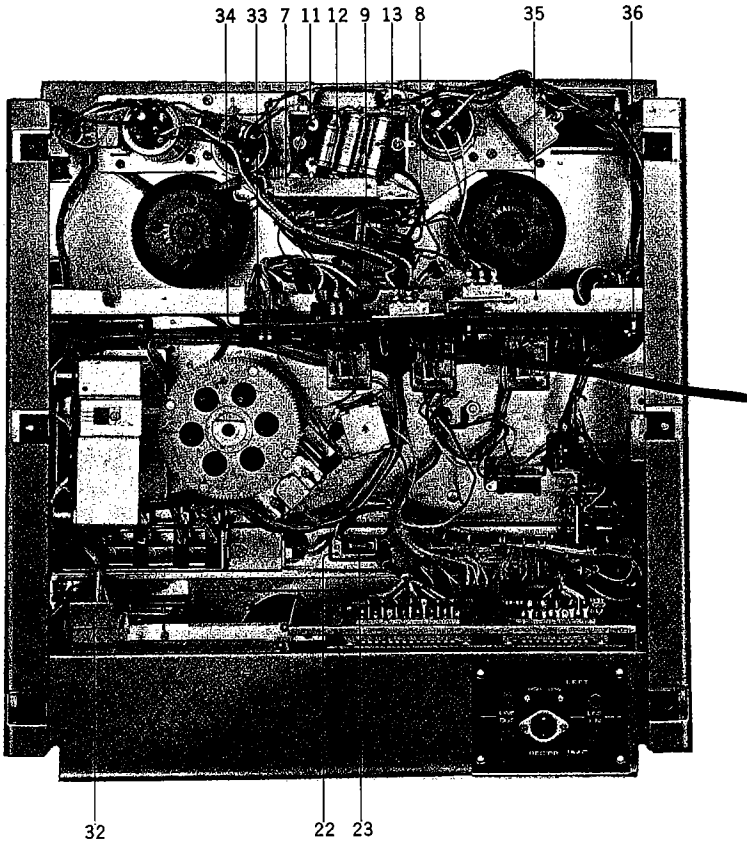
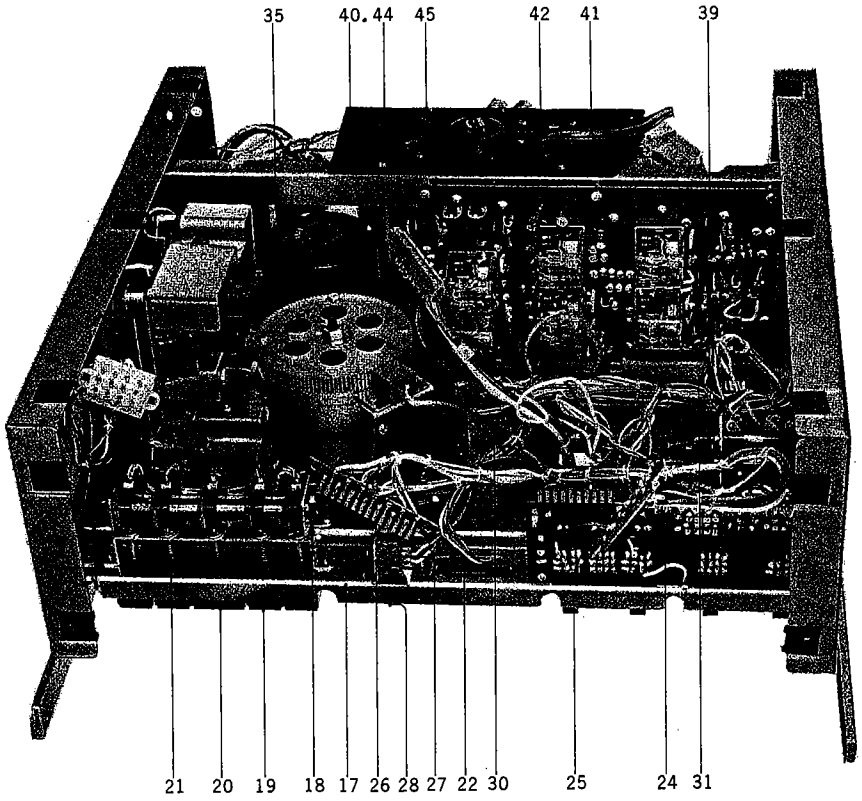


PHOTO OF POWER SOURCE BLOCK

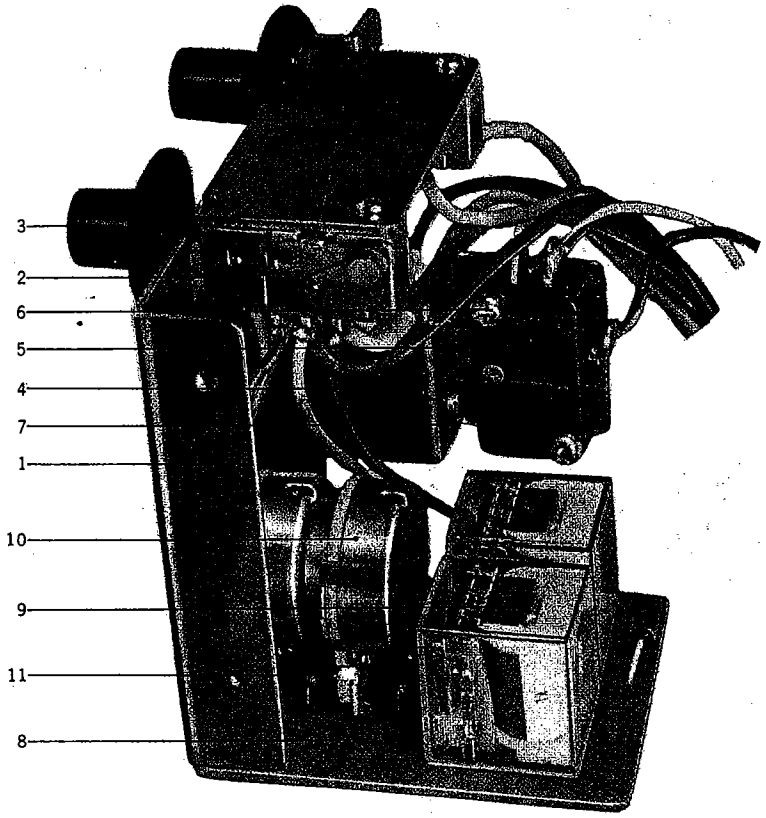




POWER SOURCE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	R-426251	Power Source Block Assy. Comp.	KG	1
1	R-397258	Power Transformer Base A	KD-2019	1
2	R-434081	MP Capacitor 3 + 0.5μF 200WV	24-9-58	1
3	R-398632	MP Capacitor 3+1μF 260WV	24-9-52	2
–	R-200687	Taping Screw #2 3 x 6		10
4	R-426690	Cement Resistor H(40+30) H2B(350+150,700)K	35-16-25	1
5	R-246701	Cement Resistor H(20+20) B(60,3K)K	35-16-24	1
6	R-398621	Power Transformer KDT-1	38-4-112	1
–	R-200700	Taping Screw #2 4 x 8		4
7	R-397271	Transformer Base B	KD-2020	1
8	R-398395	Terminal Plate ML-3182 5P (T Type)	33-5-3	2
–	R-224550	Silicon Diode 10D4	45-2-16	1
9	R-316091	Electrolytic Capacitor 100μF 160WV	24-14-14	1
–	R-202140	Screw, binding head 3 x 8		4
10	R-397282	Capacitor Mounting Base	KD-2027	1
11	R-398946	Terminal Plate SP-0501 4P (B Type)	33-4-9	1
12	R-273464	MP Capacitor 0.1μF(M) 350WV DC	24-9-4	1
13	R-341842	MP Capacitor 0.47μF(M) 300WV AC	24-9-35	2
–	R-430143	Carbon Resistor RD1/4 120Ω J	35-9-5	1
–	R-259615	Washer (SPC) 3.4 x 7.8 x 0.5t		2
–	R-201835	Screw, binding head 3 x 5		4
14	R-397304	Cycle Change SW Plate A	KD-2043	1
15	R-375478	Slide Switch ESD-279DU	25-3-23	2
–	R-371856	ISO Screw, binding head 3 x 5		2
–	R-440291	ISO Screw, Countersunk head 3 x 6		2
16	R-233370	Power Concent (Voltage Selector) S-18010	40-2-3	1
–	R-338387	Fuse ST-2 1.5A	39-1-26	1
		OPERATION BLOCK		
–	S-426262	Operation Block Comp.	KG	1
17	S-396707	Operation Button Base	KD-2001	1
18	S-396674	Operation Button Supporting Base	KD-2002	1
–	S-200687	Taping Screw #2 3 x 6		4
19	S-396641	Operation Button A	KD-2007	4
20	S-396652	Operation Button B (Stop)	KD-2009	1
21	S-428578	Operation Button Spring	KD-2058	5
–	S-290283	"U" Ring 2.85M	6-1-1	5
22	S-396617	Recording Lamp Base	KD-2012	1
23	S-396898	Neon Lamp P.C. Board	KD-1068	1
–	S-390576	Pilot Lamp RM6-24V-50MA	28-2-6	1
–	S-323728	Screw, binding head 3 x 5		1
24	S-426273	Switch P.C. Board Assy. Comp.	KD-A1002	1
–	S-273778	M3 Earth Lug		1
–	S-379405	ISO Screw, binding head 3 x 6		6
–	S-403200	Washer (SPC) 6.2 x 13 x 1t		5
25	S-210521	Push Button Switch Knob	RD-506	5
26	S-426723	SRT Switch Base	KD-A2001	1
–	S-323728	Screw, binding head 3 x 5		2
27	S-374051	Push Switch UEG-22CP	25-5-26	1
–	S-366074	Screw, round head 2.6 x 4		1
28	S-371621	PTA Knob (Black)	ED-615	1
		MECH. ASSEMBLY BLOCK		
29	T-397170	Transformer Base C	KD-1065	2
–	T-417150	Screw, pan head 4 x 6		4
30	T-414257	Motor Shield Plate KD	KD-1083	1
–	T-323728	Screw, binding head 3 x 5		4
31	T-310871	18P Multi-Jack J-2 3250-018-001	31-4-11	2
32	T-293062	12P Mate-N-Lock Cap 1-480278-0	52-1-1	1
33	T-222748	Sub Magnal Socket (Remote Control)	31-1-39	1
34	T-302400	Remote Control Mounting Plate	RX-515	1
–	T-413741	Screw, binding head 3 x 8		4
35	T-397135	Center Frame	KD-1053	1
36	T-397743	P.C. Board Prop	KD-2044	3
–	T-323728	Screw, binding head 3 x 5		8
37	T-365692	Electrolytic Capacitor 1000μF 50WV	24-13-15	2
38	T-254970	Lug Plate KP1L1	33-3-3	2
–	T-200687	Taping Screw #2 3 x 6		2
39	T-426284	System Control P.C. Board Assy. Comp.	KD-A1001	1
–	T-323728	Screw, binding head 3 x 5		3
40	T-397293	Connector Plate	KD-2042	1
41	T-374940	U/L AC Cord 3M	26-3-18	1
42	T-382263	Strin Relax SR-4K-4	2-7-12	1
43	T-397124	Cycle Changing SW Plate B	KD-1055	1
–	T-201150	Screw, truse head 3 x 6		6
–	T-374128	ISO Screw, truse head 3 x 8		2
44	T-326430	11P Short Plug A	42-1-25	1
45	T-372104	Taping Screw #2 3 x 6		4

PHOTO OF SUB PANEL (RIGHT) BLOCK

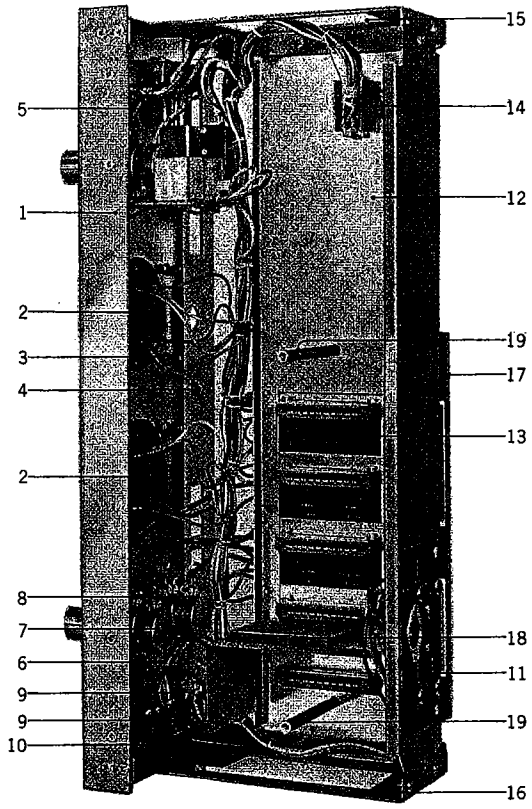


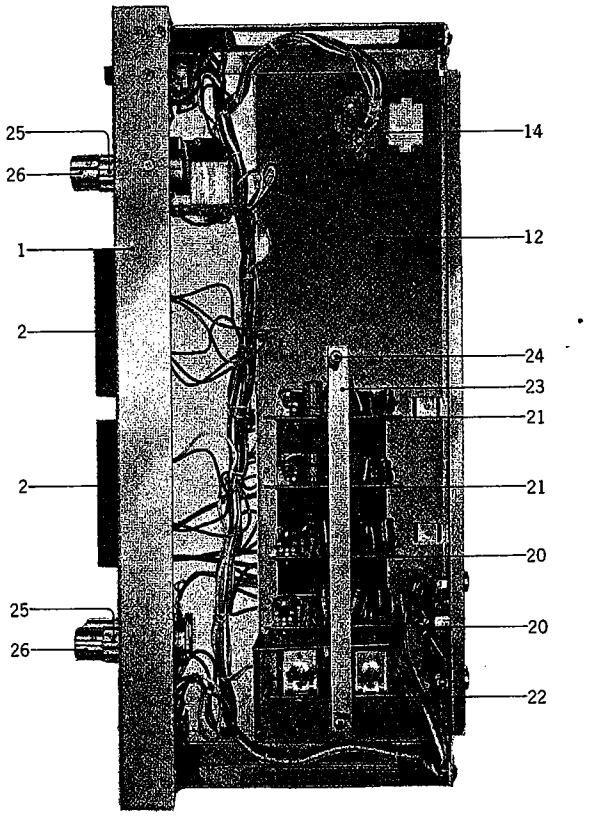
SUB PANEL (RIGHT) BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
–	U-426317	Sub Panel (Right) Assy. Comp.	KG	1
1	U-397945	Sub Panel (Right)	KD-5014	1
2	U-374051	Push Switch UEG-22CP	25-5-26	2
–	U-366074	Screw, round head 2.6 x 4		2
3	U-371621	PTA Knob (Black)	ED-615	2
4	U-397956	Recording Button Bracket	KD-5015	1
5	U-250075	Micro Switch V-1A10 U/L	25-1-8	1
6	U-422965	Screw, pan head 3 x 15		2
–	U-396628	Recording Button Spring	KD-5018	1
7	U-397967	Recording Button, w/rod	KD-5016	1
–	U-270101	"E" Ring 3.0M	6-1-9	1
–	U-323728	Screw, binding head 3 x 5		2
8	U-426328	Volume P.C. Board Comp.	KD-A5001	1
9	U-383321	Relay TECK-36 DC 22V 100Ω	47-2-20	1
10	U-426791	Double Volume DJ20R 10KA x 2	36-3-31	1
11	U-345712	Carbon Resistor RD1/4 22K J	35-9-5	2
–	U-224526	Silicon Diode 10D1	D501	1

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF AMPLIFIER ASSEMBLY BLOCK



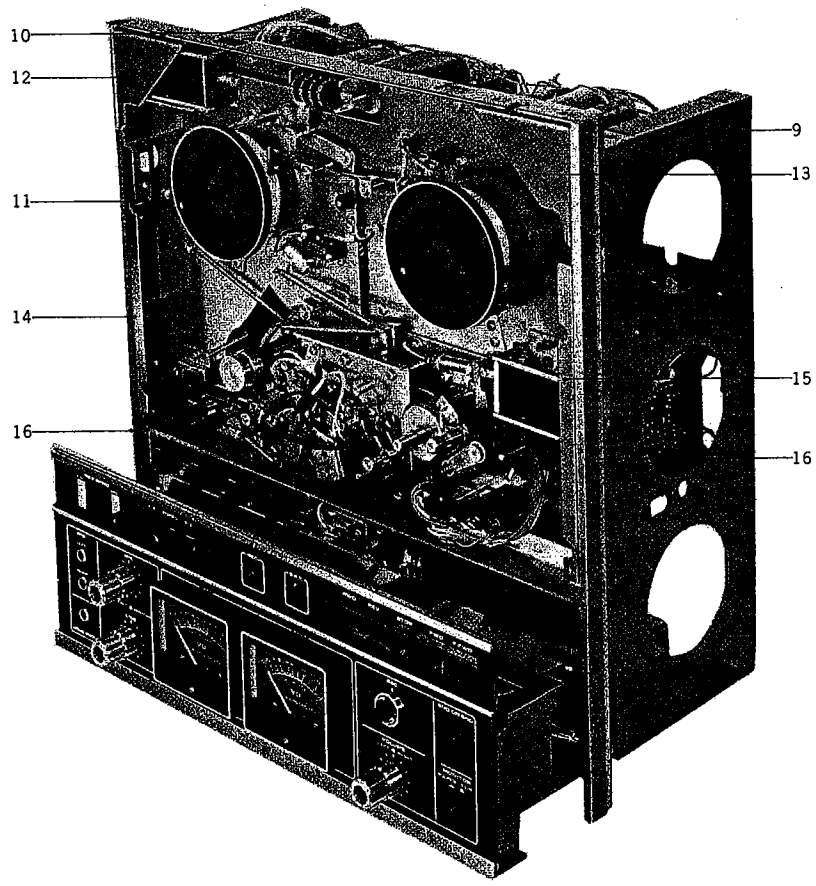


AMPLIFIER ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		AMPLIFIER PANEL BLOCK		
–	V-426306	Amplifier Panel Assy. Comp.	KG	1
1	V-426947	Amplifier Panel Only	KD-A5005	1
2	V-433923	VU Meter VH-10EB	46-1-44	2
–	V-290878	VU Meter Spring	DX-504	8
3	V-273756	M3 Nut		8
–	V-397890	Recording Button Escutcheon	KD-5003	1
4	V-426780	Illuminate Lamp Escutcheon (Red)	61-5023	1
–	V-398485	Sub Panel (Left) Assy. Comp.	KG, KA	1
–	V-323728	Screw, binding head 3 x 5		8
5	V-426317	Sub Panel (Right) Assy. Comp.	KG	1
		SUB PANEL (LEFT) BLOCK		
–	V-398485	Sub Panel (Left) Assy. Comp.	KG, KA	1
6	V-397991	Sub Panel (Left)	KD-5019	1
7	V-398586	Double Volume DJ20A 100KΩ x 2	36-3-26	1
8	V-398575	Double Volume DJ20A 50KΩ x 2	36-3-25	1
9	V-391094	Mic Jack 2PMJ1P	31-2-27	2
10	V-391083	Mic Jack 3PMJ1P	31-2-28	1
–	V-393164	Washer (SUP) 9.1 x 11.7 x 0.25t		3
–	V-375153	E Jack Nut		3
		JACK PLATE BLOCK		
–	V-398507	Jack Plate Comp.	KD	1
11	V-331356	RD Line Jack Plate, w/jack	31-5-21	1
		Carbon Resistor, Insulator Type	R	
–	V-430288	RD1/4 680Ω J	1, 3	2
–	V-214536	RD1/4 6.8K J	2, 4	2
–	V-345756	RD1/4 68K J	5, 6	2
–	V-345712	RD1/4 22K J	7, 9	2
–	V-213647	RD1/4 10K J	8, 10	2
		AMP. ASSEMBLY BLOCK		
12	W-397855	Amplifier Chassis	KD-5008	1
13	W-398542	Pre-Amp. Chassis P.C. Board Comp.	KD-5027	1
–	W-403345	Washer (A1P) 3.2 x 8 x 2t		4
–	W-325056	Taping Screw #2 3 x 12		4
14	W-293073	12P Mate-N-Lock Plug 1-480275-0	52-1-1	1
15	W-397844	Side Panel A (Right)	KD-5005	1
–	W-424124	Screw, countersunk head 3 x 5		2
–	W-323728	Screw, binding head 3 x 5		2
16	W-398722	Side Panel B (Left)	KD-5005	1
–	W-200687	Taping Screw #2 3 x 6		8
17	W-397822	Amp. Shield	KD-5011	1
18	W-397877	OSC Shield	KD-5009	1
19	W-397833	P.C. Board Post	KD-5007	2
–	W-417025	Screw, binding head 3 x 8 w/washer		2
20	W-426330	Recording Amp. P.C. Board Assy. Comp.	KD-A5003	2
21	W-426341	Playback Amp. P.C. Board Assy. Comp.	KD-A5002	2
22	W-426352	Oscillator P.C. Board Assy. Comp.	KD-A5004	1
23	W-397811	Card Retaining Plate	KD-5010	1
24	W-417025	Screw, binding head 3 x 8 w/washer		2
25	W-397912	Double Knob A	KD-5012	3
–	W-200755	Set Screw 3 x 5.5		3
26	W-428905	Double Knob B2	KD-5013	3
–	W-428916	Amp. Knob Plate 2	KD-5028	3
–	W-200766	Set Screw 3 x 5		3

When you order these parts, Please describe their Parts No. and Serial No. in detail

PHOTO OF FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Quantity
		MECHANISM PANEL BLOCK		
–	X-435025	Mech. Panel Assy. Comp.	KG	1
1	X-435071	Mech. Panel B, w/Ring	KD-6006	1
2	X-435082	Panel Ring	KD-A6004	2
3	X-397618	Counter Escutcheon	KD-6008	1
4	X-397620	Capstan Escutsheon	KD-6009	1
5	X-397631	Head Cover Base	KD-6010	1
–	X-202127	Screw, binding head 3 x 6		2
–	X-200766	Set Screw 3 x 5		2
		WALNUT CASE BLOCK		
–	Y-398294	Walnut Case Assy. Comp.	KG, KA	1
6	Y-397574	Walnut Case Only	KD-4001	1
7	Y-377190	LM Rubber Foot	LM-404	4
–	Y-403571	Wood Screw, round head 4.5 x 20		4
8	Y-382230	Ventilator	RD-A404	1
–	Y-403593	Screw, truss head 3 x 16		4
–	Y-259615	Washer (SPC) 3.4 x 7.8 x 0.5t		4
–	Y-273756	M3 Nut		4
–	Y-382241	Ventilator Supporting Plate	RD-A405	1
–	Y-200610	Tapping Screw #1 4 x 12 (truss)		1
		ASSEMBLY BLOCK		
9	Z-397495	Side Frame A (Right)	KD-6002	1
10	Z-397506	Side Frame B (Left)	KD-6002	1
–	Z-290248	Speed Nut M4 #1 (Small) U Type	6-3-1	6
–	Z-290250	Speed Nut M4 #1 (Large) U Type	6-3-2	10
–	Z-200687	Tapping Screw #2 3 x 6		6
11	Z-200610	Tapping Screw #1 4 x 12		6
12	Z-397517	Corner Angle A (Left)	KD-6003	1
13	Z-397528	Corner Angle B (Right)	KD-6003	1
14	Z-397530	Side Angle A (Left)	KD-6004	1
15	Z-397541	Side Angle B (Right)	KD-6004	1
16	Z-435014	Side Frame (Sash)	KD-6005	2
–	Z-413741	Screw, binding head 3 x 8		10
–	Z-325056	Tapping Screw #2 3 x 12		2
–	Z-200384	Screw, countersunk head 3 x 6		2
17	Z-408418	Panel Washer	KD-6029	2
–	Z-203084	Screw, oval countersunk head 3 x 8		2
–	Z-323728	Screw, binding head 3 x 5		2
18	Z-426407	Head Cover	KD-A6001	1
19	Z-426418	Head Cover Plate	KD-A6002	1
20	Z-426420	Name Plate KG	KD-A6003	1
21	Z-382285	GX Symbol Plate	RD-A633	1
22	Z-201150	Screw, truss head 3 x 6		2
–	Z-366377	Tapping Screw #1 4 x 45		4
–	Z-259806	Washer (SPC) 4.5 x 12.8 x 1t		4
–	Z-377190	LM Rubber Foot	LM-404	4
–	Z-419646	Washer (SPC) 4.5 x 9.8 x 0.5t		4
–	Z-434283	Tapping Screw #1 4 x 30		4
–	Z-200621	Tapping Screw #1 4 x 25		2
23	Z-425158	Pinch Wheel Cap	MC-6017	1
24	Z-424023	Pinch Wheel	KD-1084	1
–	Z-397563	Ventilator Panel	KD-6015	1
–	Z-324448	Tapping Screw #1 3 x 10		4
–	Z-304626	Fuse ST-4 1A	39-1-28	1
25	W-397912	Double Knob A	KD-5012	3
–	W-200755	Set Screw 3 x 5.5		3
26	W-428905	Double Knob B2	KD-5013	3
27	W-428916	Amp. Knob Plate 2	KD-5028	3
–	W-200766	Set Screw 3 x 5		3

When you order these parts, Please describe their Parts No. and Serial No. in detail

AKAI

AKAI ELECTRIC CO., LTD. 12-14, 2-chome, Higashi-Kojiya, Ohta-ku, Tokyo, Japan

Price $4.00

Printed in Japan